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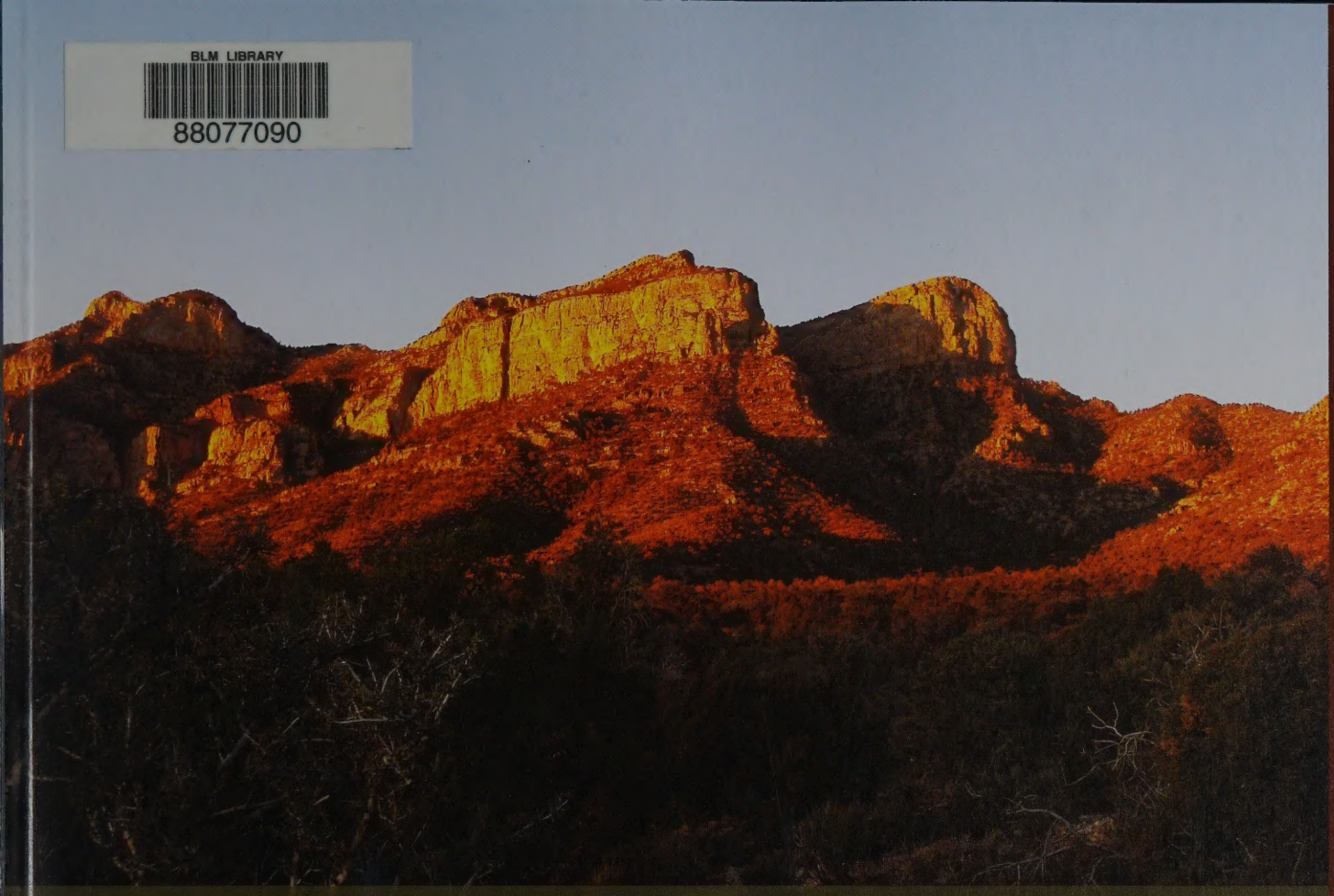

Weepah Spring and Worthington Mountains *Wilderness*

Final

Wilderness Management Plan and Environmental Assessment

U.S. Department of the Interior

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October 13, 2011

Cover Photo: Worthington Mountains Wilderness at Sunset
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Weepah Spring Wilderness
&
Worthington Mountains Wilderness

Wilderness Management Plan
And
Environmental Assessment

October 26, 2011

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Rosemary Thomas
District Manager
Ely District Office

Date

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Introduction

The United States Congress established the National Wilderness Preservation System to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States. Wilderness designation is intended to preserve and protect certain lands in their natural state. Only Congress, with Presidential approval, may designate areas as Wilderness. The Wilderness Act of 1964 defines wilderness characteristics, the uses of wilderness, and the activities prohibited within its boundaries.

Wilderness areas provide a contrast to lands where human activities dominate the landscape. No buffer zones are created around wilderness to protect them from the influence of activities on adjacent land. Wilderness areas are managed for the use and enjoyment of the American people in a manner that will leave them unimpaired for future use and enjoyment as wilderness, for their protection, preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness.

Scope of the Wilderness Management Plan

This Wilderness Management Plan (WMP) provides the primary management direction for the Weepah Spring and Worthington Mountains Wilderness areas. Given their comparable natural resources and similar broad management issues, it is appropriate to incorporate the administration of the two areas into a single ten-year plan.

Wilderness characteristics are cumulatively identified by the Wilderness Act of 1964 as untrammeled (i.e., unrestrained, unhindered) by man, natural and undeveloped, having outstanding opportunities for solitude or primitive, unconfined forms of recreation, and the inclusion of supplementary values. This Wilderness Management Plan preserves the areas' characteristics by:

- Identifying the conditions and opportunities for which the wilderness areas would be managed.
- Creating specific guidelines for managing resources and activities existing in the wilderness.
- Identifying management needs outside of, and immediately adjacent to the wilderness areas; including signing, staging areas, and access points.

The WMP contains current comprehensive descriptions of the wilderness areas and proposed management actions, directives and guidelines that relate to specific wilderness management categories. An Environmental Assessment follows the WMP, which fully describes and analyzes potential impacts relating to proposed management actions, directives and guidelines and considered alternatives.

Consistency with Bureau of Land Management (BLM) and Other Land Use Plans

This WMP is in conformance with the goals, objectives, and decisions analyzed within the scope of the Ely District Approved Resource Management Plan (RMP, 2008) and is consistent with the goals, objectives, and decisions in the Master Plan for Lincoln County Nevada (2007).

Compliance with Laws, Statutes, and Regulations

The WMP is in compliance with the following:

- The Wilderness Act of 1964 (16 U.S.C. §§ 1131-1136, September 3, 1964, as amended 1978).
- The Federal Land Policy and Management Act of 1976 (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996).
- The Lincoln County Conservation, Recreation and Development Act of 2004 (Public Law 108-424).
- The National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994).
- The Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544, December 28, 1973, as amended 1976-1982, 1984, and 1988).
- Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d, June 8, 1940, as amended 1959, 1962, 1972, and 1978).
- Migratory Bird Treaty Act (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989).
- Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds (2001).
- Management of Designated Wilderness Areas (43 CFR Part 6300).
- Recreation Management Restrictions: Occupancy Stay Limitation (43 CFR 8365.1-2(a) and Federal Register Notice NV-930-4333-02).
- Unlawful Manner of Camping Near Water Hole (Nevada Revised Statute 503.660).
- Executive Order 13112: Invasive Species (1999).
- Executive Order 13443: Facilitation of Hunting Heritage and Wildlife Conservation (2007).
- National Historic Preservation Act (Public Law 89-665; 16 U.S.C. 470 as amended through 2000).
- Federal Property and Administrative Services Act of 1949 (40 U.S.C. as amended through Public Law 106–580, Dec. 29, 2000).
- Archaeological Resources Protection Act of 1979, as amended (Public Law 96-95; 16 U.S.C. 470aa-mm).
- Wild Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195).
- Federal Cave Resources Protection Act of 1988 (Public Law 100-691; 16 U.S.C. § 4301, as amended through Public Law 106-170, 1999).
- Secretarial Order No. 3226 Amendment No. 1 – Climate Change and the Department of the Interior.
- Secretarial Order 3289 – Addressing the Impacts of Climate Change on America's Water, Land and Other Natural and Cultural Resources.

Relationship to Policies and Guidelines

The WMP is in conformance with the following guidelines, manuals and handbooks:

- Management of Designated Wilderness Areas (BLM Manual 8560).
- Wilderness Management Plans (BLM Manual 8561).
- Grazing Guidelines (House Report No. 101-405, Appendix A).
- Wildlife Management Guidelines (House Report No. 101-405, Appendix B).
- BLM Emergency Stabilization and Rehabilitation Handbook.

Wilderness Overview

The Weepah Spring and Worthington Mountains Wilderness areas were added to the National Wilderness Preservation System by the Lincoln County Conservation, Recreation, and Development Act of 2004 (Public Law 108-424, November 30, 2004; LCCRDA). Weepah Spring Wilderness encompasses 51,480 acres and ranges from 4,600-8,605 feet elevation; Worthington Mountains Wilderness covers 30,644 acres from 4,900-8,968 feet elevation. The Bureau of Land Management, Ely District Office, has sole management responsibility for these wilderness areas.

The two wilderness areas are situated in relative proximity to one another in eastern Nevada, 125 miles north of Las Vegas and 100 miles west of Caliente. They are primarily within Lincoln County, except for portions of Weepah Spring Wilderness, which lie in northeastern Nye County. State Highway 318 provides relatively easy access to southern and eastern portion of Weepah Spring. Shadow Road, near the town of Rachel on State Highway 375, provides the easiest access to the Worthington Mountains. Additional access to the wilderness areas includes numerous maintained, unpaved roads and ATV routes. Few cherrystem routes (a road that is excluded from the designated wilderness by a non-wilderness corridor having designated wilderness on both sides) occur adjacent to the wilderness areas.

Recreational use levels are believed to be low, with most use occurring during the spring and fall seasons. However, the potential for increased visitation is high considering the two areas' scenic attractions. For example, Leviathan Cave within Worthington Mountains is a popular destination. In addition to spelunking (caving), recreational activities include hiking, rock climbing, wildlife viewing, hunting, trapping, and photography. Horseback riding and backpacking are limited due to the scarcity of water.

The geology of the region is predominantly sedimentary rock layers dominated by limestone and dolomite that were deposited when the area was an extensive inland shallow sea, and are overlaid with much younger volcanic rock. Extensive faulting and uplifting has created sloping mountains and ridges that are dissected by dramatic cliffs. The terrain varies from jagged peaks and ridges, rugged escarpments and narrowly carved canyons, to lower hill slopes and washes. Some of the unique geologic features include tunnel and cave formations, arches, volcanic tuffs, and plugs.

Skull Arch in Weepah Spring Wilderness

Ecologically, these two mountains ranges are considered "sky islands", or mountains in ranges surrounded by valleys of ecologically different environments. Much as an island is surrounded by ocean, these mountain ranges of pinyon pine and juniper are surrounded by the lower, hotter "oceans" of sagebrush. These changes in elevation and soil influence the plant and animal life of each mountain island.

Native vegetation consists primarily of singleleaf pinyon (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*) woodland with associated curl-leaf mountain mahogany (*Cercocarpus ledifolius*) at the middle elevations. Various sagebrush community type shrubs such as black sagebrush (*Artemisia nova*), little sagebrush (*Artemisia arbuscula spp. arbuscula*), Wyoming big sagebrush (*Artemisia tridentate ssp. wyomingensis*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), greasewood (*Sarcobatus vermiculatus*), saltbush (*Atriplex spp.*), and jointfir (*Ephedra* spp.) comprise the lower slopes. Common herbaceous species include Idaho fescue (*Festuca idahoensis*), Indian ricegrass (*Achnatherum hymenoides*) sandberg bluegrass (*Poa secunda*), bluebunch wheatgrass (*Pseudoroegneria spicata*), needlegrass (*Achnatherum* spp.), and needle and thread (*Hesperostipa comata*). Stands of ponderosa pine (*Pinus ponderosa*) occur in significant portions of Weepah Spring and to a lesser extent in the Worthington Mountains Wilderness. Great Basin bristlecone pine (*Pinus longaeva*) occurs in portions of both areas.

The area's varying climate and elevation provides important habitat for a variety of wildlife. Mammal species include mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), desert bighorn sheep (*Ovis canadensis nelsoni*), bobcat (*Lynx rufus baileyi*), and mountain lion (*Felis concolor*). Pinyon jay (*Gymnorhinus cyanocephalus*), Clark's nutcracker (*Nucifraga columbiana*), mountain bluebird (*Sialia currucoides*), Green-tailed towhee (*Pipilo chlorurus*), and an impressive suite of raptors including golden eagle (*Aquila chrysaetos*), Cooper's hawk (*Accipiter cooperii*), and ferruginous hawk (*Buteo regalis*) can also be seen. Reptiles common to these areas include greater short-horned lizard (*Phrynosoma hernandesi*), Great Basin collared lizard (*Crotaphytus bicinctores*), and Sonoran mountain kingsnake (*Lampropeltis pyromelana*). No federally listed species are known to occur, however several BLM and state sensitive species are known or are likely to occur.

Of non-native invasive plant species, only the noxious weed saltcedar (*Tamarix* spp.) has been documented within wilderness (Worthington Mountains), though cheatgrass (*Bromus tectorum* L.) has been observed in both areas. Further, whitetop/hoary cress (*Lepidium draba*), dalmation toadflax (*Linaria dalmatica*), spotted knapweed (*Centaurea stoebe* spp. *micranthos*) and Russian knapweed (*Acroptilon repens*) occur in adjacent non-wilderness and have the potential to occur within wilderness.

The historical fire regime of these areas was highly variable. Fires were frequent in lower elevation sagebrush communities and spread to the adjacent pinyon-juniper woodland while infrequent relatively small-scale high severity fires characterized the pinyon-juniper woodland. Increased distribution and density of the pinyon-juniper woodland, coupled with the presence of introduced non-native annual grasses, predominately cheatgrass, has increased the frequency of large, intense fires. The intensity of these fires can lead to further dominance by exotics, thereby altering the fire regimes and succession, resulting in a feedback loop. Recent fires burned 3,248 acres of the Weepah Spring Wilderness in 2006. Current fire management objectives are management of wildland and prescribed fires in the treatment of vegetation communities and watersheds to achieve the desired range of condition for these and other resource programs.

Fossils found throughout the area offer a glimpse into life hundreds of million years ago when the area was at the bottom of a sea. Prehistoric cultural resources abound and include petroglyphs, grinding stones, lithic scatters, rock shelters, and prehistoric camp sites. More recent human occupation by early settlers is evidenced by the presence of various historic resources such as glass bottles, metal cans, barbed wire and a corral.

Active grazing permits existed at the time of wilderness designation and are authorized to continue under the direction of the Congressional Grazing Guidelines. Presently, both Weepah Spring and Worthington Mountains overlap a total of eight allotments. Few range developments (fences, pipelines) exist for the maintenance and support of livestock grazing operations in the two wilderness areas.

Human-caused disturbances, in the form of unauthorized off-road vehicle routes, existed within these areas at the time of wilderness designation. These routes have been decommissioned (motorized vehicle use is no longer allowed) and initially rehabilitated (an effort to return decommissioned route to vegetative state): Weepah Spring Wilderness contains 8.4 miles and Worthington Mountains Wilderness has 13 miles. There are a couple cherrystem routes

Worthington Mountains Wilderness

associated with each wilderness. No private inholdings are present, nor are any private parcels immediately adjacent to either wilderness. State Highway 318 serves as the boundary along the southeastern side of Weepah Spring Wilderness for seven miles.

A more comprehensive description of the environment is incorporated into the Affected Environment section in the Environmental Assessment (EA) that analyzes the impacts of implementing the proposed WMP.

Wilderness Characteristics

The Wilderness Act of 1964 defines wilderness and mandates that the primary management direction is to preserve wilderness character. Although wilderness character is a complex idea and was not explicitly defined in the Wilderness Act, wilderness characteristics are commonly defined as:

- **Untrammeled** — area is unhindered and free from modern human control or manipulation.
- **Natural** — area appears to have been primarily affected by the forces of nature.
- **Undeveloped** — area is essentially without permanent improvements or human occupation and retains its primeval character.

Map 1: Overview

BLM

Ely District Office

Quinn Canyon

Grant Range

Nye County

Lincoln County

Weepah Spring

Worthington Mountains

Big Rocks

318

R055E T003N R054E T003N R055E T003N R056E T003N R057E T003N R058E T003N R059E T003N R060E T003N R061E T003N R062E T003N R063E

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AREA LOCATOR

Legend

- State Highways
- Unpaved Roads
- County Line
- Forest Service Wilderness
- BLM Wilderness
- Bureau of Land Management
- Forest Service
- Private

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Map Produced by: EYDO Wilderness Staff 06/17/2011

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- **Outstanding opportunities for solitude or a primitive and unconfined type of recreation** — area provides outstanding opportunities for people to experience solitude or primeval and unrestricted recreation, including the values associated with physical and mental inspiration and challenge.

Additionally, the wilderness areas may contain ecological, geological, or other features of scientific, educational, scenic, or historical value. These supplemental values are optional wilderness characteristics which need not be present for an area to meet the definition of wilderness.

Wilderness Specific Issues

This WMP was prepared to address issues that were identified through internal and public scoping. Internal scoping was done via meetings and written communications with BLM resource specialists. The BLM conducted public scoping in the form of workshops, meetings, written letters and email. Public scoping workshops were held in Las Vegas (May 24, 2010) and in Caliente (May 25, 2010). Issues identified during scoping include:

Opportunities for solitude or primitive and unconfined recreation

- Bolting of climbing routes should not be allowed.

Protecting and enhancing the undeveloped and natural appearance of the wilderness areas

- A designated trail up to Leviathan Cave is not desired, though hardening the route through the narrow canyon section would help protect the canyon from further erosion.
- A gate should be placed across the entrance of Leviathan Cave to prevent human access and protect cave resources.

Preserving naturalness, primeval character and influence of the wilderness areas

- Manage the ponderosa pine stand on Weepah Spring Wilderness to remove encroaching understory growing as a result of historic fire suppression. Consider removing ladder fuels in Bristlecone pine stand on east side of Worthington Mountains Wilderness.
- Weed eradication projects should consider all available options.
- Consider placing limits on extractive research requests with respect to cave resources.

Management of special non-wilderness land uses allowed by the Wilderness Act

- Continue to provide access to range developments and allow for flexibility in timing and frequency of access.

Managing supplemental values of the wilderness

- Signage regarding the cave should be cautious about what is shown, but include caving etiquette. Consider placing a sign near the entrance of the cave, too.
- Include a plan to protect cultural resources at Weepah Spring.

Wilderness Management

- Removal of any personal equipment (e.g. caving gear, climbing ladders) left in wilderness.

Certain issues identified during public scoping are already addressed in existing planning documents or policy, and are not within the scope of this plan. They are listed below:

- Amending wilderness boundaries or cherry-stemmed routes - Wilderness boundaries are designated by Congress and legislation would have to be enacted to authorize any changes.

Wilderness Management Goals and Objectives

Managing Wilderness is guided by four primary goals defined in Appendix 1 of the BLM wilderness management planning manual (BLM Manual 8561). The goals provide general direction, and are refined into specific objectives. Objectives are statements of desired conditions, stemming from current situations and assumptions about the future. Management action(s) are based on these objectives. This section outlines the goals and objectives that guide this wilderness management plan.

Goal 1

Provide for the long-term protection and preservation of the areas' wilderness character under a principle of non-degradation. The areas' natural condition, opportunities for solitude, opportunities for primitive and unconfined types of recreation, and any ecological, geological, or other features of scientific, educational, scenic, or historic value present will be managed so that they would remain unimpaired.

Objectives

- Preserve the primeval character and influence of the wilderness by allowing fire as a natural process of disturbance and succession where the ecosystem is fire-dependent; manage fire where it threatens wilderness character and/or natural ecological conditions or processes; prevent fire where it threatens human life or property.
- Manage wildlife habitat to support healthy, viable, and naturally distributed wildlife populations in an effort to retain the areas' natural and primeval character.
- Maintain native plant distribution and abundance through the reduction of noxious and non-native invasive species in an effort to retain the areas' natural and primeval character.
- Protect and preserve the outstanding archaeological and historic resources of these areas while allowing for visitor enjoyment of those resources.

Goal 2

To manage the wilderness areas for the use and enjoyment of visitors in a manner that would leave the areas unimpaired for future use and enjoyment as wilderness. The wilderness resource would be dominant in all management decisions where a choice must be made between preservation of wilderness character and visitor use.

Objectives

- Provide for the use and enjoyment of the wilderness areas while maintaining outstanding opportunities for primitive recreation, including solitude, through minimal visitor use regulations and minimal on-the-ground developments.
- Utilize education and interpretation as a proactive approach in managing visitor activities that may impact preservation of the wilderness character.
- Prevent unauthorized motorized vehicle travel through the management of vehicle access points.

Goal 3

To manage the wilderness areas using the minimum tool, equipment, structure or method necessary to successfully and safely accomplish the objective of a project approved for the preservation of wilderness character. The chosen tool, equipment, structure or method should be the one that least degrades wilderness values temporarily or permanently. Management would seek to preserve spontaneity of use and freedom from regulation to the greatest extent possible.

Objective

- Implement proposed actions as necessary to meet minimum requirements for the administration of the areas as wilderness and to have the least impact to wilderness characteristics.

Goal 4

To manage activities (e.g. grazing of livestock and commercial services) allowed under the Special Provisions of the Wilderness Act (Section 4(d)) and subsequent laws in a manner that would prevent unnecessary or undue degradation of the areas' wilderness character. Special Provisions are the exception rather than the rule; therefore, emphasis is placed on maintaining wilderness character.

Objectives

- Allow for special provision land uses determined by the Wilderness Act or Lincoln County Conservation, Recreation and Development Act while minimizing developments, degradation to naturalness, and other impacts to wilderness resources.
- Maintain or enhance the natural appearance of the wilderness areas by removing unnecessary facilities and minimizing or restoring human-caused surface disturbances.
- Assess potential commercial services of the wilderness areas for their economic importance and prevent negative impacts on wilderness characteristics.

Current Situations and Assumptions

Current local conditions and expectations were identified before developing management actions. Inventory, monitoring, and research would be important aspects to meet the objectives of this plan.

Current Situation

No federally listed species are known to be present; however, there are several BLM special status animal species (e.g. Desert Big Horn Sheep, Hoary Bat, Prairie Falcon, etc.) present. Both areas contain mule deer habitat and potential desert bighorn sheep habitat. The lower slopes of each wilderness provides pronghorn antelope habitat. The Worthington Mountains Wilderness has a fair amount of sage grouse habitat, as well.

> ***Assumption:*** One aspect of preserving the wilderness areas' natural and primeval character involves the maintenance of healthy, viable, and naturally distributed wildlife populations. It may be necessary to implement management activities to prevent degradation or enhance wilderness characteristics.

Current Situation

Preservation of the natural character of these wilderness areas is currently affected by areas of invasive and noxious weeds such as cheat grass and Salt cedar (on a cherrystem). The presence of introduced annual grasses has increased the abundance of fine fuels. In 2006, fires burned 3,248 acres in the Weepah Springs Wilderness and portions of the burned areas were subsequently reseeded to aid in post-fire rehabilitation.

> ***Assumption:*** Further establishment of invasive and noxious weeds could further impair ecological integrity throughout the system and thus degrade wilderness character. Disruption of native vegetation could further alter natural fire regimes, thus, management activities may be necessary.

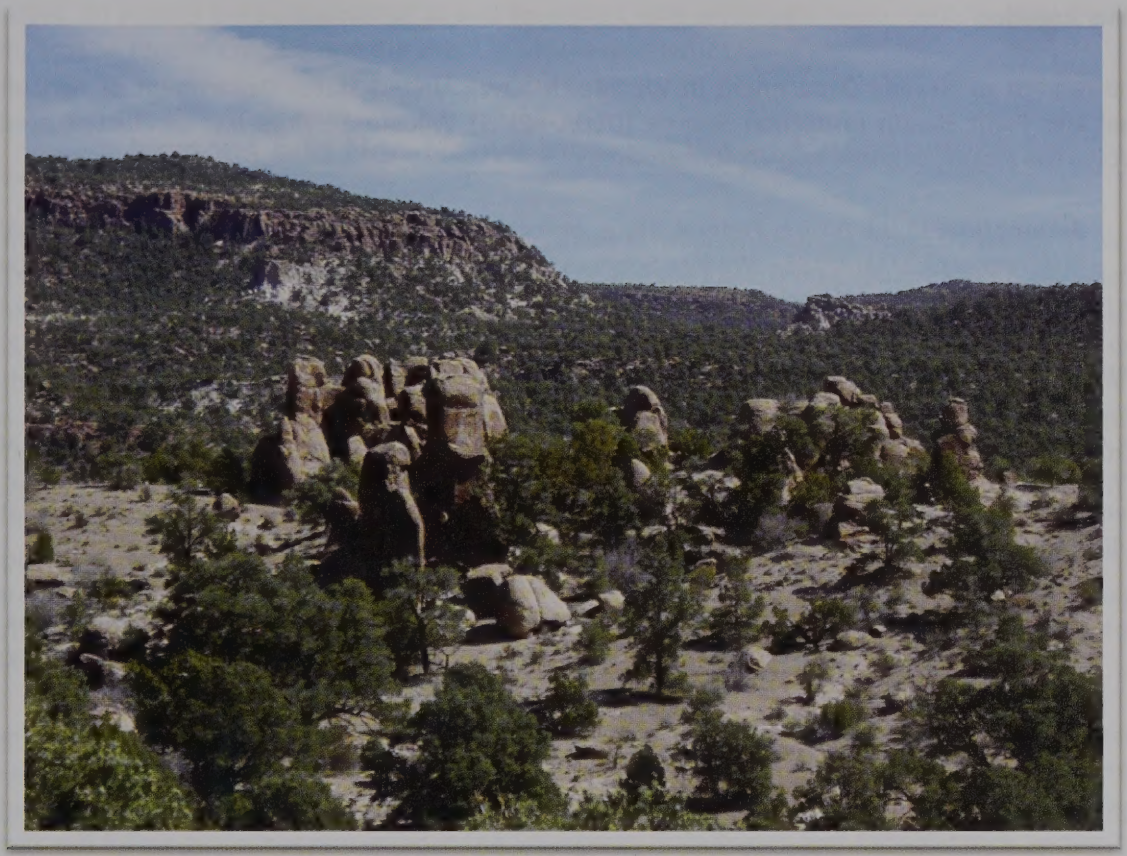
Current Situation

Current trammeling activities in these areas include active livestock grazing allotments, the presence of authorized allotment fences, pipelines and a portion of a reservoir.

> ***Assumption*:** Livestock grazing and the necessary facilities and activities to support a livestock grazing program are expected to continue. Limited input would be required to manage trammeling activities.

Current Situation

These two wilderness areas are fairly remote from any major population centers (e.g. Las Vegas, Nevada). But as human population increases additional pressures may be placed on rural Nevada.



Weepah Spring Wilderness

Assumption: Wilderness designation has the potential to draw more attention to these areas and thereby increase visitation. Use would be expected to increase in certain areas while use in the remainder of the wilderness areas would be light. Management would preserve opportunities for solitude, primitive unconfined recreation, and the future use and enjoyment of the areas as wilderness.

Current Situation

A few former 4WD vehicle routes exist in both areas. These routes have been decommissioned and have undergone initial rehabilitation. Several cherrystem routes provide access points into deeper portions of the wilderness areas. Since it is virtually impossible to physically prevent vehicles from being driven off of authorized access routes, there have been incidences of unauthorized vehicle incursions into the wilderness areas.

Assumption: Unauthorized vehicle use may continue due to urban expansion and proximity possibly leading to the degradation of wilderness characteristics.

Current Situation

At the request of Nevada Department of Wildlife (NDOW), United States Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS) Wildlife Services has conducted predator control in the vicinity of these two wilderness areas.

> ***Assumption:*** In the future, Federal, State, or local agencies, private organizations, or individuals may request USDA-APHIS - Wildlife Services to conduct wildlife damage management activities for the protection of special status and game species or to prevent serious loss of livestock.

Current Situation

Nellis Air Force Base frequently conducts training exercises in the airspace above the wilderness areas. These exercises have resulted in the release of flares, aircraft parts, and non-operational ordnance into the wilderness. Additionally, training exercises have occasionally resulted in emergency situations including downed aircraft or pilot and some classes of live ordnance.

> ***Assumption:*** Military operations will continue to occur in the airspace above wilderness and may result in the need for operations to handle both non-emergency incidents and emergency situations.

Management Strategy

The management strategy for the Weepah Spring and Worthington Mountains Wilderness Areas is to maintain or improve the natural, near-pristine conditions present today while rehabilitating existing and future human-caused disturbances.

Wilderness Management Actions

Wilderness management actions for these two areas are based on national wilderness goals, wilderness management objectives, current situation and assumptions, and wilderness-specific issues that were identified through internal and external scoping. Except for site-specific proposed actions, management actions and guidelines are the same for the two areas because of similar broad management issues.

Resource programs such as Fire Management, Noxious and Invasive Weed Management, Range, and Wild Horses and Burros individually address the management goals and activity plans of their respective programs. This WMP considers all resources involved in the wilderness areas as well as associated management issues and concerns as they relate to the wilderness resource. Non-wilderness resource programs have been evaluated to ensure conformity with wilderness management goals and objectives. Management actions are described on the following pages. While all of the management actions provide wilderness specific direction, several outline site-specific management actions.

Any ground disturbing activities involved with the following actions would follow Best Management Practices outlined in the Ely District Approved Resource Management Plan (2008) regarding all identified

resources. All actions are supplemental to and consistent with wilderness laws, regulations and policies, which must be further consulted in the event of unforeseen issues.

Noxious and Non-Native Invasive Weed Management

The management ideal is to sustain only native species in wilderness areas. Noxious weeds in Nevada are classified by the Nevada Department of Agriculture and the Plant Protection Act (2000) administered by the United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS). Current known infestations include salt cedar (*Tamarix* spp.) (noxious, category C) within Worthington Mountains, while cheatgrass (*Bromus tectorum*) (invasive) is found throughout the two areas. Species that have been identified in adjacent non-wilderness include spotted knapweed (*Centaurea stoebe ssp. micranthos*) (noxious, Category A) and hoary cress (*Cardaria draba*) (noxious, Category C).

The potential exists for further infestations of these, and other species, coming from surrounding areas. Different management techniques may be required for each non-native, invasive species based on effectiveness as determined by plant biology, Minimum Requirements Analysis and impact to the wilderness resource.

When noxious and invasive weeds are found, emphasis would be placed on controlling small infestations with the potential to spread and displace native plants. Treatments for large infestations (as determined by the BLM Ely District Weeds Coordinator) would be considered separately. Seeding and transplant projects will follow guidelines presented in the Emergency Stabilization and Rehabilitation section (Page 37). BLM Ely District weed management protocols would guide the use of herbicide treatments. The Ely District Integrated Weed Management Plan and Environmental Assessment (DOI-BLM-NV-L000-2009-0010-EA) has also analyzed the effects of treatments in wilderness. Treatments would be prioritized in the following order, though it is likely that treatment combinations would be necessary in some situations:

1. Manual removal with hand tools if weeds could be controlled or eradicated without causing re-sprouting, without soil disturbance leading to expansion of noxious or non-native invasive species, and where infestations are of a size manageable by hand crews.

2. Herbicides applied by backpack and pack stock equipment, where manual removal is not effective.

3. Biological control agents approved by the Animal and Plant Health Inspection Service where infestations are of such size that eradication by manual removal or herbicides is not feasible.

4. Herbicides applied aerially or with motorized equipment, where control is feasible, where control impacts are quickly and readily rehabilitated and where the infestation is of such size that herbicide cannot be effectively applied without motorized equipment. When a Minimum Requirements Analysis determines that motorized equipment is recommended, site-specific National Environmental Policy Act (NEPA) analysis would be required.

Waterfall in Weepah Spring Wilderness

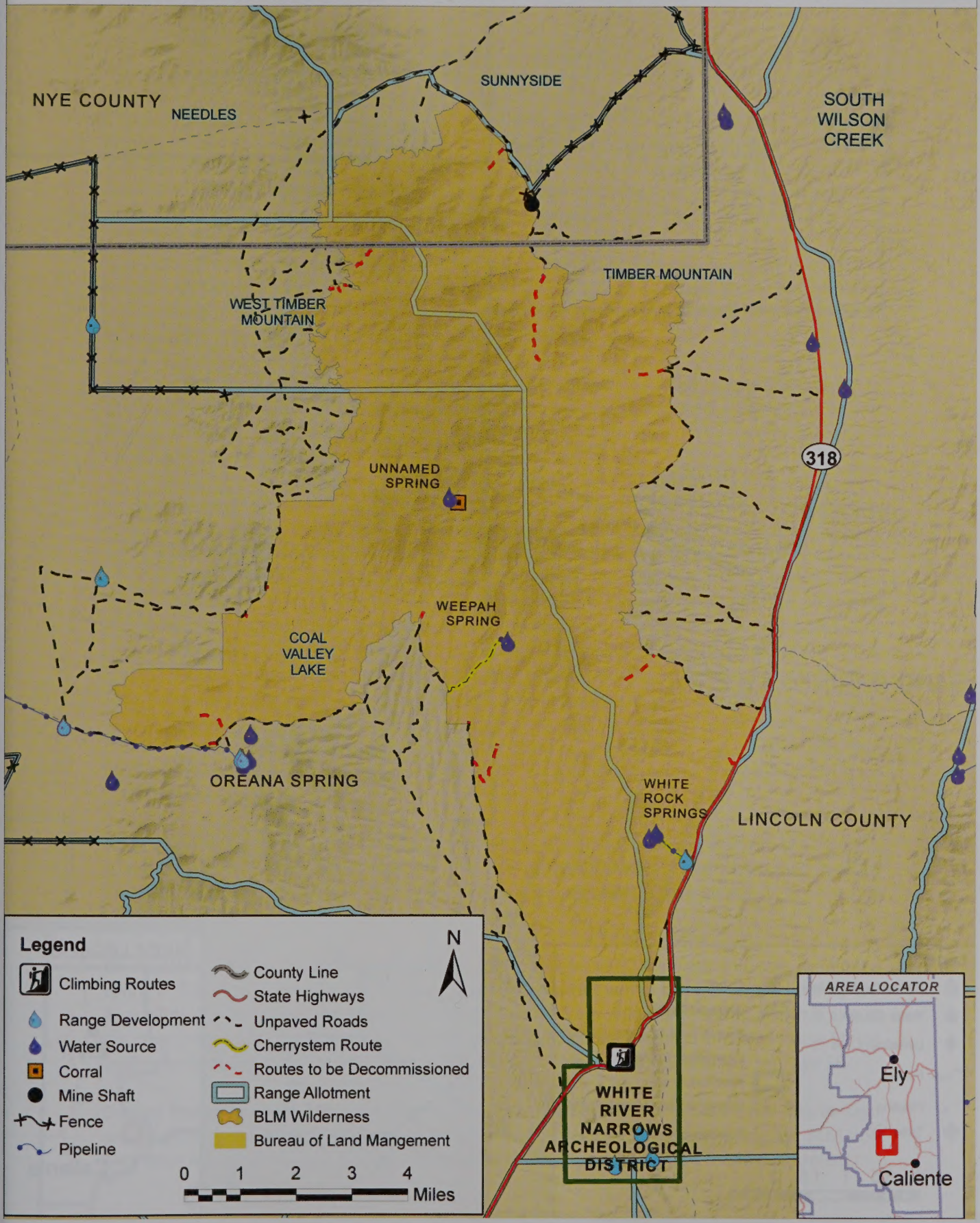
5. Reseeding treated areas preferably with native species of local genetic stock following guidelines outlined under the Emergency Stabilization and Rehabilitation heading (See Page 37).

6. Alternative treatments, such as targeted grazing by livestock, could be considered if recommended through site-specific NEPA analysis to manage weed infestations within wilderness.

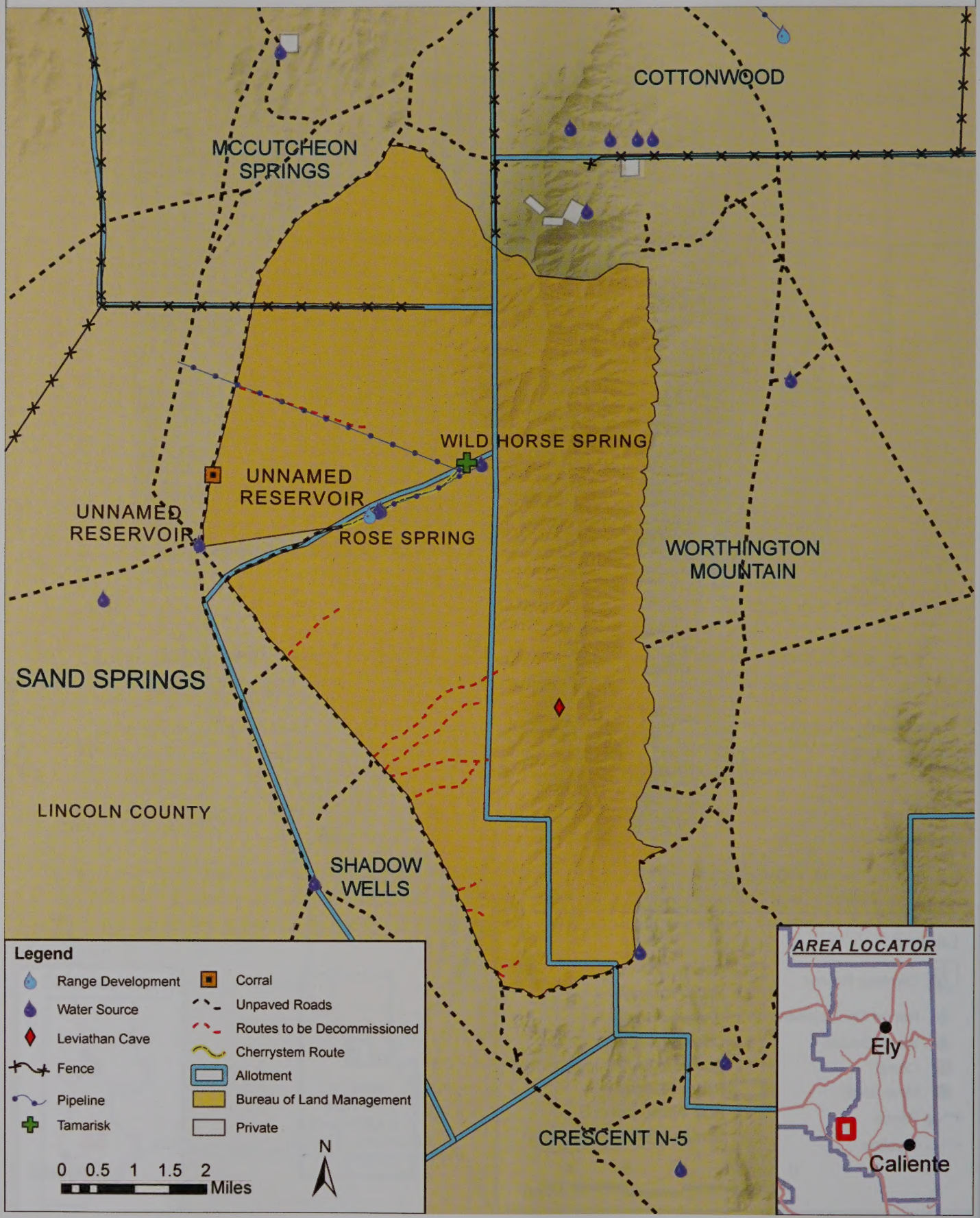
Site-Specific Actions

Treat the small salt cedar infestation at the end of the cherrystem on Worthington Mountains Wilderness. Salt cedar infestations would first be treated using the cut-stump method and secondly, if seasonal re-sprouting occurs, by the directed low volume foliar application method. Treatment details can be found in Appendix A.

MAP 2: CURRENT CONDITIONS OF WEEPAH SPRING WILDERNESS



MAP 3: CURRENT CONDITIONS OF WORTHINGTON MOUNTAINS WILDERNESS



Range Management

Although grazing is considered a trammeling activity, the Wilderness Act explicitly allows this activity to occur where it existed prior to wilderness designation. The BLM Manual 8560 (Management of Designated Wilderness Areas) also states, "Grazing of livestock, where established prior to the effective date of the Act designating the area as wilderness, must be permitted to continue subject to this policy and the BLM grazing regulations 43 CFR 4100."

Grazing would continue under federal regulations to meet the Mojave – Southern Great Basin Resource Advisory Council Standards. Planning related to grazing operations would be guided by the Congressional Grazing Guidelines (House Report 105-405 Appendix A, 1990) and the BLM Manual 8560 (Management of Designated Wilderness Areas).

Activities and the necessary facilities used to support livestock grazing will be permitted to continue in wilderness. The following excerpt from the Congressional Grazing Guidelines (House Report 101-405, 1990) provides direction for facilities maintenance and use of motorized equipment in wilderness:

> The maintenance of supporting facilities, existing in an area prior to its classification as wilderness (including fences, line cabins, water wells and lines, stock tanks, etc.) is permissible in wilderness. Where practical alternatives do not exist, maintenance or other activities may be accomplished through the occasional use of motorized equipment.... Such occasional use of motorized equipment should be expressly authorized in the grazing permits for the area involved. The use of motorized equipment should be based on a rule of practical necessity and reasonableness.... Moreover, under the rule of reasonableness, occasional use of motorized equipment should be permitted where practical alternatives are not available and such use would not have a significant adverse impact to the natural environment. Such motorized equipment uses will normally only be permitted in those portions of a wilderness area where they had occurred prior to the area's designation as wilderness or are established by prior agreement.

At this time, there is one fence (600 feet) and 200 feet of pipeline that extend into the Weepah Spring Wilderness. This wilderness also has one historic corral and two developed springs: White Rock Springs and Weepah Spring. On the four allotments that overlap the Weepah Spring Wilderness there are 5 permittees. See Map 2 on Page 17.

On the Worthington Mountains Wilderness there is a fence (2.4 miles) and one developed spring – Wild Horse Spring – at the end of a cherrystem; not within the wilderness boundaries. A pipeline (4 miles) sends the water down to a reservoir from Wild Horse Spring, which is also in the cherrystem, but overlaps into wilderness. A second pipeline extends from Wild Horse Spring to the northwest. Across the four allotments, there are 5 permittees. See Map 3 on Page 18.

Current known range developments, as well as any range developments discovered may be kept and maintained. Developments would be removed if deemed unnecessary by the BLM and permittee following periodic evaluations or when there is a grazing permit renewal or transfer.

Volunteers removing an abandoned range development in Weepah Spring Wilderness

The installation of new range developments is allowed in accordance with the Congressional Grazing Guidelines and pending public notification, minimum requirements decision guide analysis (MRDG), and project-specific NEPA analysis.

Range developments that appear to have been abandoned will receive an administrative record review and additional field reconnaissance in order to determine usage. The assigned BLM range specialist and archaeologist would be consulted to determine if historical or cultural designation is warranted. If it is determined, after consultation with the permittee, that a development is abandoned and not of historical or cultural value, it would be removed by BLM personnel or authorized volunteers. All projects involving ground disturbing activities will be subject to Section 106 consultation. Range developments for which questions of activity exist would be evaluated during the livestock operators' term permit renewal process.

Routine livestock management activities and maintenance of supporting facilities (e.g. small salt drops and fence repairs) would be accomplished by foot or horseback as needed. Motorized vehicles may be authorized for major maintenance when transporting equipment or parts which cannot be transferred by foot or pack stock. Specific maintenance requirements and schedules will be established by the permittee, range specialist and wilderness specialist during permit renewal and will be stated as a term or condition of the grazing permit.

Administrative routes are routes identified for the purpose of allowing permittees access to existing grazing facilities. No administrative routes have been identified in this plan. However, should the need for administrative access routes be necessary in the future, the following would apply:

- Approved motorized access would be confined to established administrative access routes. These would be managed for limited use by the permittee only.

- A gate or bollard, signed as administrative access, may be installed at the beginning of selected administrative access routes to prevent unauthorized vehicle use. The permittees and BLM staff would maintain access keys.

- Administrative access routes would not be decommissioned (returned to a natural, vegetated state) and they may be maintained on a case-by-case basis to provide reasonable access for permittees.

In the case of an emergency such as rescuing sick animals or placement of feed, the permittee may be authorized to use motor vehicles in addition to their scheduled range development maintenance and livestock management access, provided the permittee notifies the BLM at the onset of the emergency or immediately thereafter. This would be stated as a term or condition of the grazing permit.

Appendix B lists all available data for Properly Functioning Conditions of springs or riparian areas within the two wilderness areas .

Site-Specific Actions

The eight existing range developments would be kept and maintained. Maintenance schedules for existing range developments will be determined in the Term Permit Renewal process, and accompanying NEPA analysis. This renewal process is undertaken every ten years on each allotment. Rangeland health standards are evaluated at that time.

Management of Small-Scale Surface Disturbances

Small-scale disturbances fall into two categories with common characteristics: small-site disturbances including dispersed campsites and abandoned developments and mine sites; and linear disturbances created by motorized vehicle traffic that are largely denuded of vegetation. The Wilderness Disturbance Reclamation Environmental Assessment (EA) (NV-040-05-010), as well as the EA associated with this plan, may be referenced for rehabilitation following decommissioning of former vehicle routes and rehabilitating small-site disturbances.

All reclamation activities will be in accordance with the 2008 Ely District Approved Resource Management Plan's Best Management Practices (Appendix A, Section 1). Work will be completed by BLM staff, contractors, and volunteers. All vehicles would be limited to designated and existing roads outside of wilderness. All actions in wilderness will be conducted with non-motorized equipment and non-mechanized transport (with the exception of wheelbarrows for

moving heavy objects). Actions would include and generally be conducted in the following order as needed:

1. **Decompaction:** Working the top few inches of the entire disturbed surface to relieve soil compaction. This action would be completed with the use of non-motorized hand tools (soil spades, spading forks, McLeod rakes, pulaskis, shovels, horse-drawn implements, etc.).

2. **Scarifying/pitting:** Loosening and texturizing the impacted, disturbed surface in random locations to better capture water, organic debris, and wind-blown seeds, thereby stimulating natural revegetation. This would be done with non-motorized hand tools.

3. **Recontouring:** Reconfiguring/shaping the route to blend it with the adjacent, relatively undisturbed desert. This would involve the creation of small hummocks and banks, where appropriate, to mimic the surrounding landscape. Berms would be pulled in and the soil distributed across the disturbed surface. Vehicle tracks in sandy washes would be raked. This would lessen visual contrasts and provide a surface for natural revegetation. This action would be completed with non-motorized hand tools.

4. **Vertical mulching:** Dead and down vegetation is "planted" to obscure the visible portions of the disturbance. Additional dead vegetation, rock material and other organic matter may be distributed over the worked surface to decrease visual contrasts, create sheltered sites to aid in natural revegetation, and add organic debris. Dead and down vegetation and other materials would be gathered by hand from areas near to the disturbances.

5. **Erosion control:** Placing sterile weed-free straw bales or creating light terracing/berms to reduce erosion and create barriers to vehicles on steep slopes. This is especially effective on hill climbs. The straw bales break down over time and provide additional organic debris to the reclamation site. Bales would be brought in by hand or horseback to the worksite.

6. **Desert varnish colorant:** Spraying disturbed rock surfaces to simulate the coloration of the surrounding desert varnish. Desert varnish colorants are chemical compounds comprised of manganese, salts and other ingredients used to simulate the natural desert varnish that occurs on rock surfaces in arid environments. This substance would be applied sparingly, with the use of a backpack sprayer, and only on disturbed rock surfaces that contrast sharply with the surrounding landscape.

7. **Vegetative restoration:** This would involve planting, transplanting and/or seeding necessary to help stabilize soil, speed overall vegetative recovery and camouflage evidence of disturbances. All seed would be locally collected or native species scattered on reclaimed surfaces to accelerate natural revegetation. This action would be completed with non-motorized hand tools.

Monitoring will be performed to assess the need for additional rehabilitation work utilizing photo points that would be established at the time of rehabilitation and retaken annually thereafter. Repeat treatments would occur on a case-by-case basis.

Graffiti removal in Weepah Spring Wilderness

Large surface disturbances, such as those that may be caused by heavy machinery, would be rehabilitated by the entity (e.g. individual, agency, or company) causing them. They would also be responsible for developing a rehabilitation plan and conducting any necessary environmental analysis.

Site-Specific Action

Currently there are approximately 34 linear disturbances totaling 21 miles, which is approximately 21 acres of surface disturbance. Except for designated hiking and equestrian trails, all former vehicle routes, including future disturbances, would be decommissioned over time. Based on monitoring results, repeat treatments may occur. Decommissioned routes would include: 8.4 miles in Weepah Spring and 13.0 miles in Worthington Mountains. These routes are displayed on Maps 2 - 3 (See Pages 17-18).

All standard operating procedures, mitigation measures, and conservation measures listed in the Record of Decision for the Wilderness Disturbance Reclamation Environmental Assessment, which was approved in June 2005, and Ely District Best Management Practices will be followed.

Should trails be designated over the life of this plan, they would be marked on the ground at trailheads and/or staging areas and displayed on BLM wilderness and recreation maps. The BLM will comply with section 106 of the NHPA for all trail designations. Visitors traveling off designated trails may create informal foot-worn hiking paths, sometimes referred to as social trails. These informal foot-worn paths may continue to be used by visitors. However, they would not be marked on the ground, displayed on BLM recreation maps or brochures, or routinely receive maintenance.

Monitoring for new foot-worn hiking paths would specifically occur in high use areas, at all vehicle access points, and near decommissioned routes. An inventory of new foot-worn hiking paths will be maintained and monitored for resource damage. Monitoring would identify paths with different levels of trampling, such as social trails to primitive camping areas, cut vegetation, or other evidence of use.

As new foot-worn paths are discovered, they would be evaluated for impacts to wilderness character (including cultural and biological resources) and the management objectives of this plan. When appropriate and where possible, new foot-worn hiking paths may be rehabilitated or retained (See the following "Trail Standards"). When a foot-worn hiking path is retained, it may be rerouted, improved, or maintained to follow designated trail standards as outlined below to make the trail compatible with protecting resources while preserving wilderness character. If not designated as a trail or retained as a foot-worn hiking path, new trails would be rehabilitated.

Trail Standards

Both designated trails and, when determined appropriate, informal foot-worn paths may be maintained or rerouted where they are causing or anticipated to cause damage to wilderness character. Examples for when trail maintenance or rerouting would occur include:

- Slopes greater than 15 percent, beyond which potential for excessive soil erosion and trail deterioration is high. Very short, steep sections may be retained where reinforcement with native rock would prevent soil erosion. Rolling dips or rock-enforced water bars would be utilized to reduce water caused soil erosion.

- Where trail braiding or duplicate routes exist or are beginning to occur, the most appropriate trail would be selected by improving its tread surface or trimming back vegetation. The alternate trail(s) would be obstructed and rehabilitated with rock or native vegetation.

- Maintenance would strive to limit trail width to 24 inches, but not exceed 36 inches, except for trail sections along precipices (where it may be wider for safety and horse use) or in washes. Width standards are applied to continuous segments longer than 50 feet. Tree limbs or fallen trees may be cleared within ten feet high and four feet to either side of trail (cutting limbs at trunk) or, where practical, minor trail relocation to avoid the tree.

- Trails may be rerouted to avoid damage to natural or cultural resources.

Site-Specific Actions

The user-created trail in the Worthington Mountains Wilderness would be retained as a hiking trail. The trail would be approximately 2 miles long and follow the current unofficial route leading to Leviathan Cave from the Worthington Mountains Trailhead (see Trailhead sketch on the following page). Due to the nature of the trail, it would not be subject to the "Trail Standards" described above. Hardening primitive sections of the trail through the steep sections of the canyon may occur to prevent erosion. It would not receive routine maintenance.

The Worthington Mountains Trailhead would be slightly enlarged to better accommodate vehicle parking and turnaround. The perimeter would be marked by large rocks and boulders. See illustration on the following page. No improvements would be made to the access road.

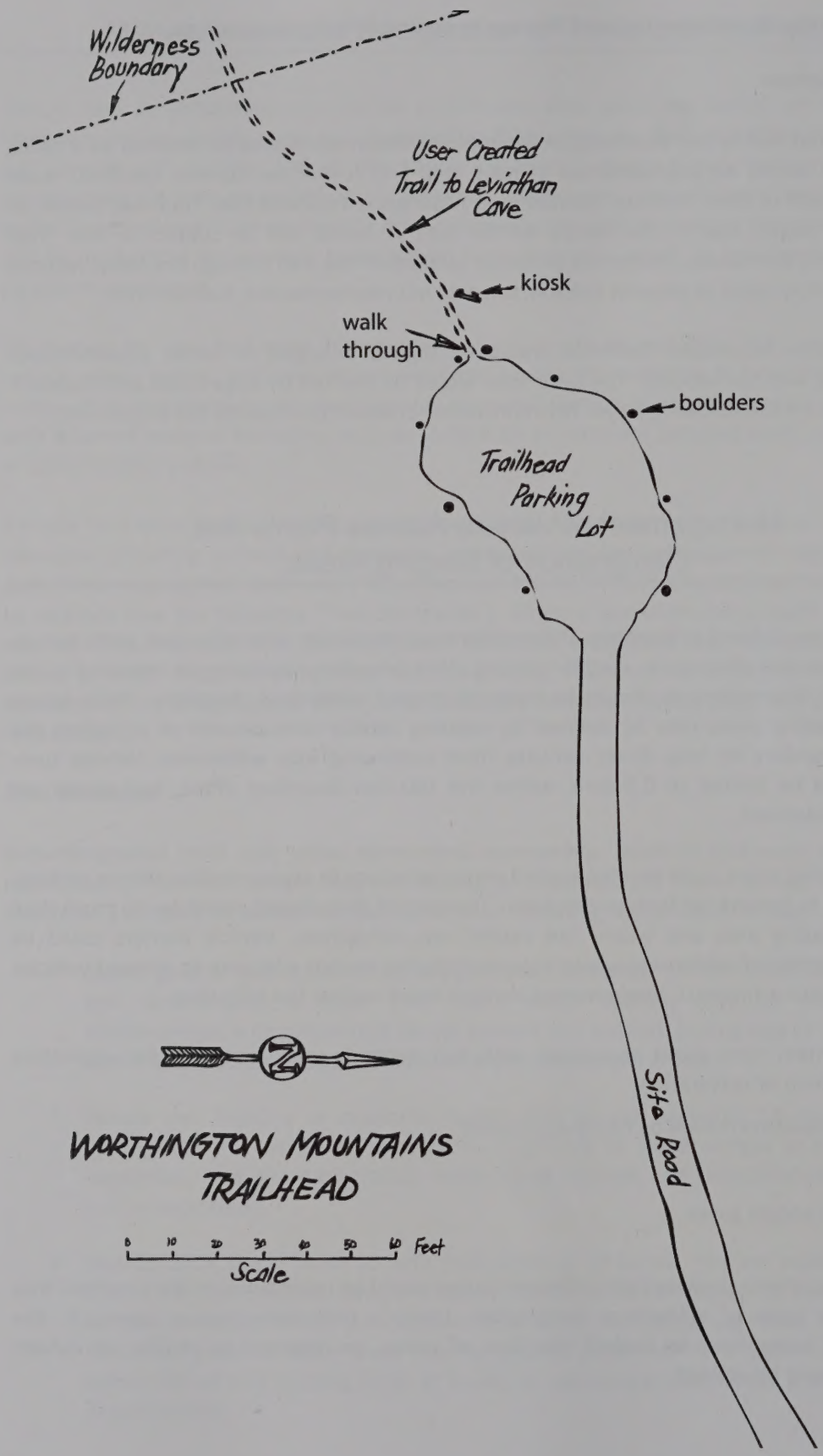
Management of Vehicle Access Points and Designation of Staging Areas

Access points are defined as locations along wilderness boundaries where focused entry occurs. Over time, these and other areas used for parking along boundary roads may be impacted to the point at which improvements should be made to protect wilderness character. These access points and parking areas may be defined by creating vehicle turn-arounds at or before the wilderness boundary to help direct vehicles from continuing into wilderness. Vehicle turn-arounds would be limited to 0.5 acre, within the 100-foot boundary offset, and would not extend into wilderness.

Additional staging areas could be constructed when necessary to accommodate vehicle parking, visitation, and to protect wilderness character. The area of disturbance would be no more than 1 acre per staging area and would not extend into wilderness. Vehicle barriers could be constructed outside of wilderness where natural obstacles are not adequate to prevent vehicles from crossing into wilderness. Implemented barriers could include the following:

- Wilderness sign, berm associated with turn-around, small rocks and/or vegetation placement or restoration.
- Large boulders moved by heavy equipment.
- Posts.
- Fences and/or gates.

Where feasible, cherry-stemmed and adjacent routes would be maintained in the condition that existed at the time of wilderness designation. Using a trail maintenance approach, the installation of water bars to control the flow of water, as opposed to blading or culvert installation, would be utilized.


Wilderness Boundary
User Created Trail to Leviathan Cave
kiosk
walk through
boulders
Trailhead Parking Lot
Site Road
N
WORTHINGTON MOUNTAINS TRAILHEAD
0 10 20 30 40 50 60 Feet
Scale

Site-Specific Actions

The Ponderosa Pine Staging Area would be designated for Weepah Spring Wilderness. The staging area would be located in adjacent non-wilderness in an undisturbed location, and would be limited to 100 X 100 feet to facilitate vehicle parking and turn-around. It would include installation of an information kiosk and possibly vehicle barriers, if deemed necessary. The staging area location is depicted on Map 4 (Page 31). For signs and kiosks associated with the proposed staging area, see the Sign Plan section below.

Sign Plan

The wilderness boundary will be identified by signs at key locations. These signs will be simple installations (e.g. carsonite posts) used to delineate the wilderness boundary from adjacent non-wilderness.

Directional signs, placed along minor routes and entrances to cherrystems, will direct visitors to wilderness access points or staging areas. These signs will also help to both identify legal driving routes and eliminate illegal vehicle intrusions.

Key entrance signs will state the name of the wilderness, and will be placed where visitors are likely to come into contact with the wilderness boundary. Both directional and key entrance signs will be larger than the boundary markers.

Examples of Key Entrance and Directional Signs

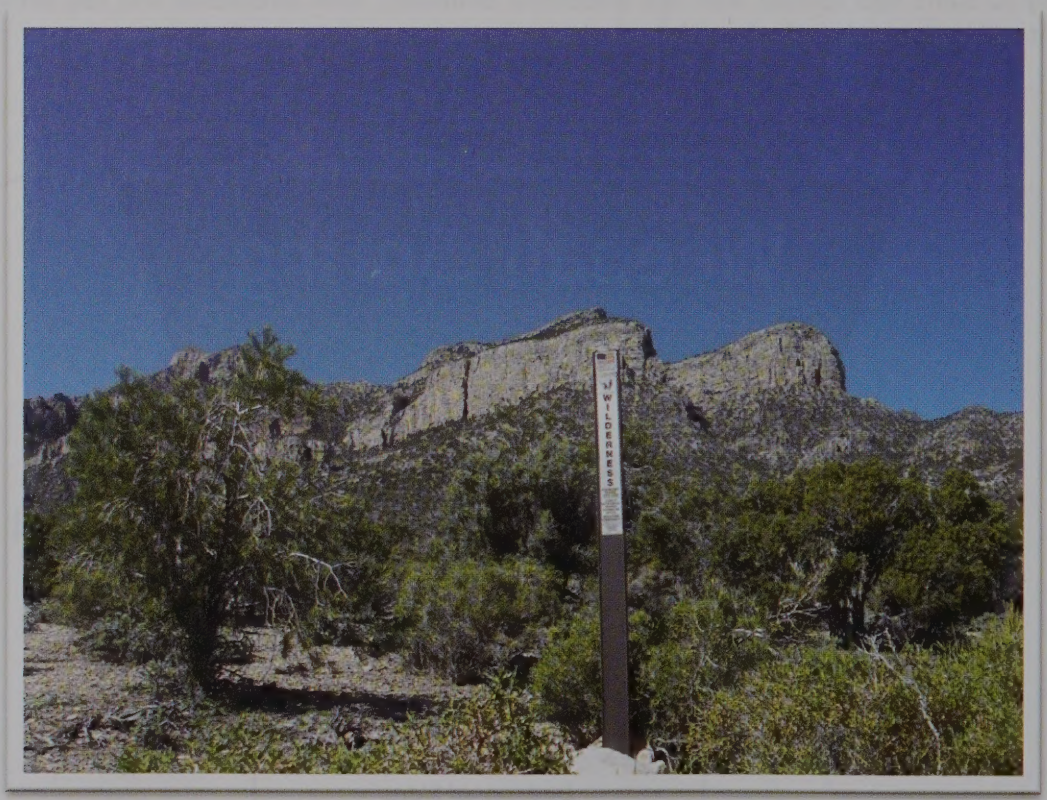
Kiosks will be one or two-paneled information signs placed at staging areas, access points, or major roads. These signs will provide regional and local information regarding wilderness, natural and cultural resources, regulatory information, and interpretation. These signs will direct visitor use away from sensitive resources. Additionally, certain kiosks may include visitor surveys with collection boxes. Signs will be installed to manage for changing needs.

Should trails be designated in the future primitive recreation would be preserved by not installing signs or posts along the trail in wilderness. At trailheads, signs would be installed stating "This trail is open to hikers, horses. Closed to motor vehicles and motorized equipment."

At locations where there is visitor access along former vehicle routes, carsonites will be posted stating "Restoration Area – Motor Vehicles Prohibited."

Site-Specific Actions

Directional signs would be placed along the western boundary of Worthington Mountains to guide the public towards the Worthington Mountains Trailhead and at the access route leading to the trailhead. Much of the illegal motorized trespass in the Worthington Mountains Wilderness is on the road that used to provide easier access to the cave from the west side. The directional sign would help guide people to the eastern side of the mountain before they reached the wilderness boundary.



A carsonite post marks the boundary of Worthington Mountains Wilderness

Kiosks would be installed at the Ponderosa Pine Staging Area for Weepah Spring Wilderness and at the Worthington Mountains Trailhead. Both of these signs would be placed in adjacent non-wilderness locations. The kiosk adjacent to the Worthington Mountains Wilderness will include general wilderness information, natural history and cave etiquette. It will not show the location of the cave.

Key entrance signs were placed in 2010 adjacent to the west boundary of the Worthington Mountains, adjacent to the northern boundary of Weepah Spring Wilderness and outside the highway right-of-way along its southern boundary of Weepah Spring Wilderness. This was covered under the NEPA document: Wilderness Signs and Information Kiosks (DOI-BLM-NV-L000-2009-003-CX). No further analysis is needed for the Key entrance signs. Sign locations are depicted on Maps 4 - 5 on Pages 31-32.

Vegetation Restoration

Projects that attempt to restore native vegetation or to enhance the resiliency of impaired vegetation communities with objectives that fall within the bounds of maintaining or improving wilderness character would be considered. This would be accomplished by addressing issues that challenge the Great Basin ecosystem functions, such as the establishment of invasive annual grasses that has changed historic fire regimes. Temporary structures, such as exclosure fences, could be permitted when their presence would contribute to the long-term enhancement of wilderness character.

Several tree species found within the Weepah and Worthington Wilderness areas are relatively rare in the Great Basin. Ponderosa pine stands are remnants from the Pleistocene era when ponderosa was a much more widespread species in the Great Basin. Today they are only found in physically and perhaps genetically disjoint populations at higher elevations. However, these stands which historically were maintained by disturbance, generally wildfire, as open, pure stands often are becoming encroached by other conifer species, specifically singleleaf pinyon pine and Utah juniper. The resulting stands are much denser than what would occur with a natural disturbance regime with many more ladder fuels that puts these remnant ponderosa pine stands at risk of high severity, high intensity and high mortality wildfires. The increased density also puts the ponderosa pine trees at an increased risk of mortality due to insects, especially mountain pine beetle, as a result of increased competition for resources which results in more stress to the trees and lowers the natural ability of the trees to survive an insect attack.

Ponderosa Pine Stand in Weepah Spring Wilderness

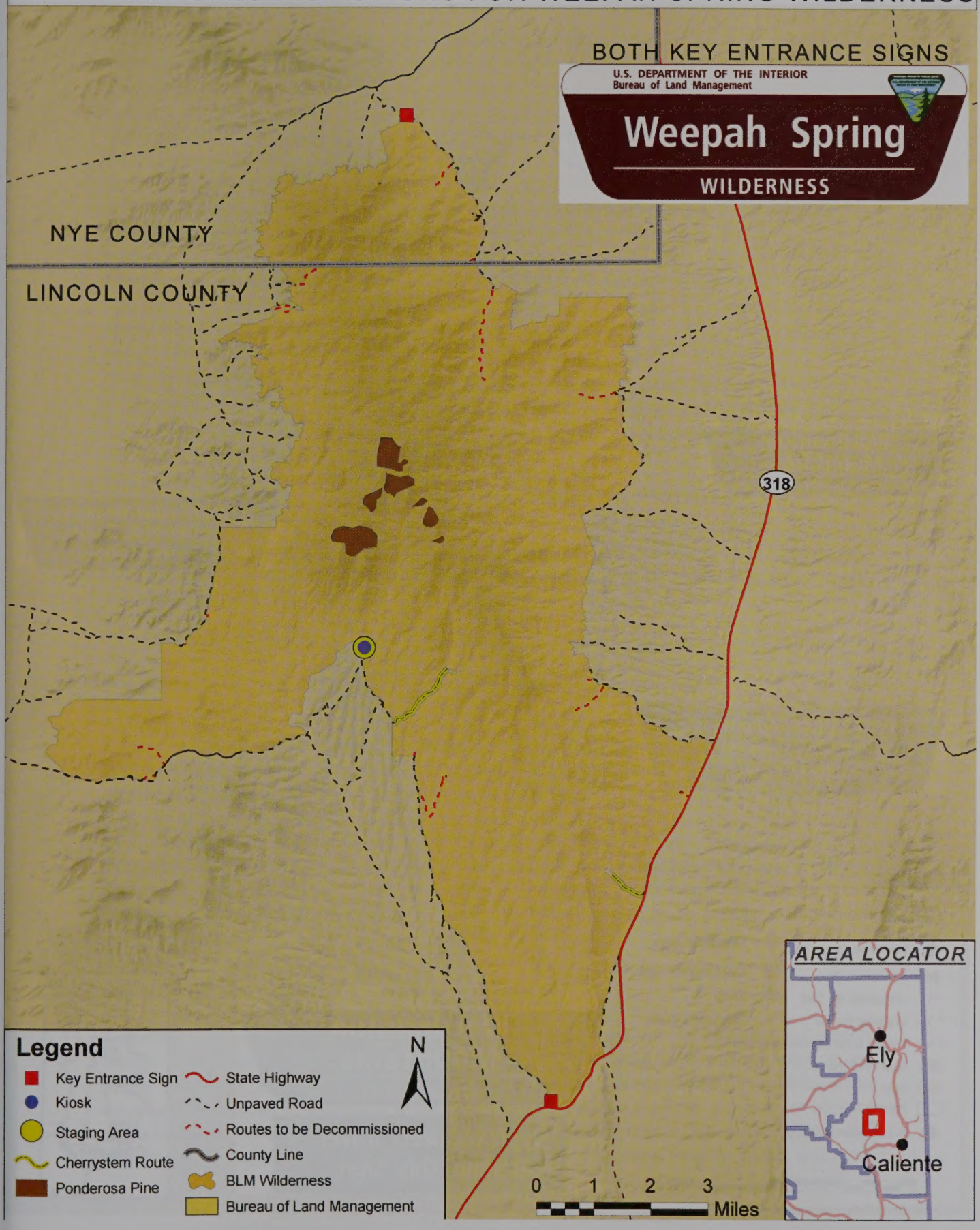
Ancient bristlecone pine stands are facing a similar fate. Growing in the harshest conditions at historically low densities these trees were often subject to fine scale, low severity surface fires. In the past century, some of these bristlecone pine stands have seen an increasing number of pinyon and juniper trees growing among the bristlecone. The pinyon and juniper would alter natural fire characteristics and could result in a much more intense wildfire that has potential to cause mortality in the bristlecone.

Reducing the density of pinyon and juniper trees within these unique ponderosa pine and bristlecone pine ecosystems is critical to maintaining them on the landscape and maintaining the natural characteristic of the Weepah Spring and Worthington Mountains Wilderness areas.

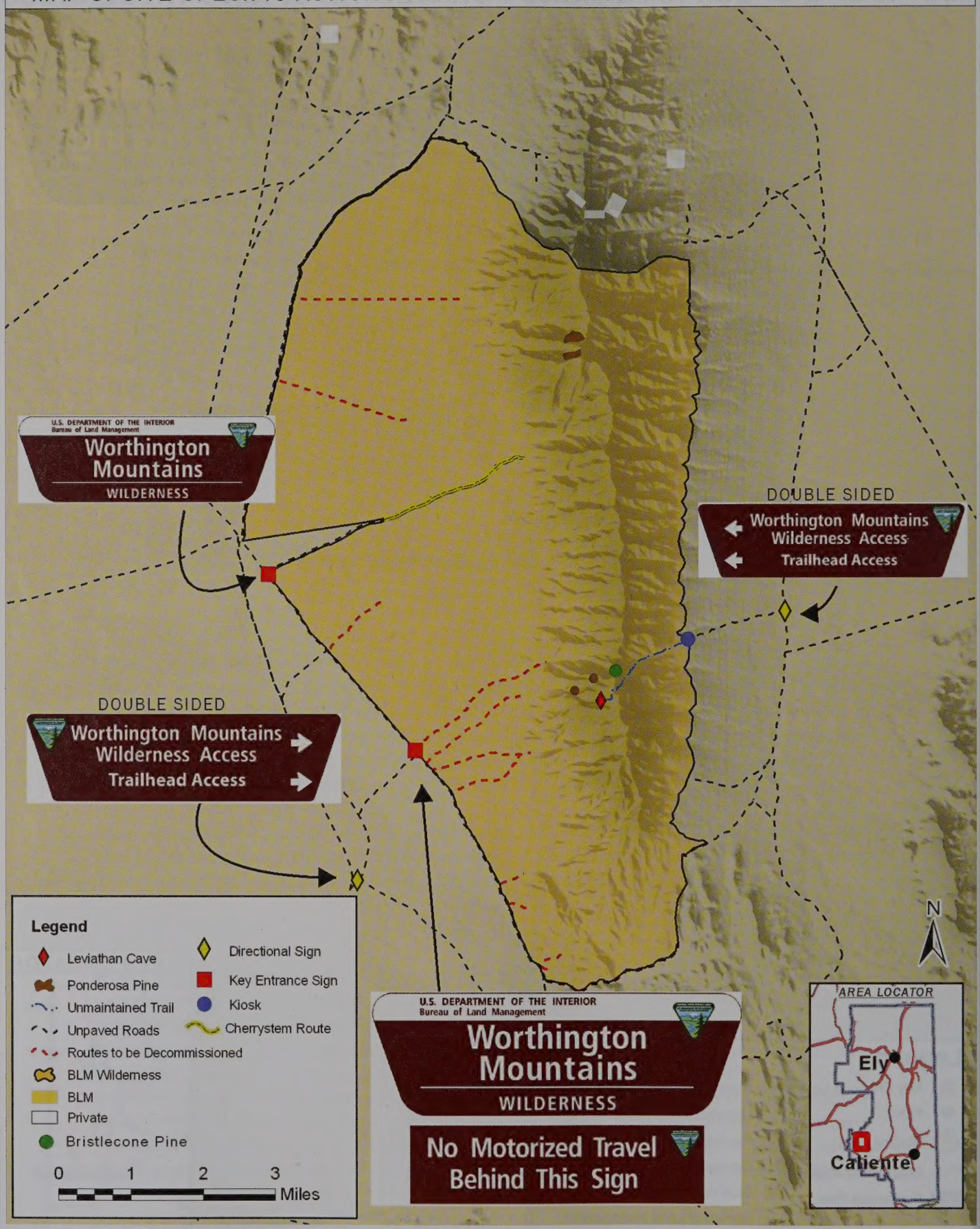
Site-specific Actions

Within both ponderosa and bristlecone pine stands, restoration projects would consist of removing pinyon pine and juniper trees found within the stand. Restoration activities would be triggered when ecological conditions of the stand reach a threshold in which either reproduction of the ponderosa is limited by competition from the other conifer species or when pinyon pine or juniper species are growing in such a density and configuration that the potential for unnatural crown fire or fires of uncharacteristic severity is increased within the ponderosa or bristlecone pine stands. Specifically, the stand density index (SDI) metric will be used as a method of identifying when ecological thresholds have been reached. When the SDI of the pinyon and juniper component of the ponderosa or bristlecone pine stand exceeds ten percent

MAP 4: SITE SPECIFIC ACTIONS FOR WEEPAH SPRING WILDERNESS



MAP 5: SITE SPECIFIC ACTIONS FOR WORTHINGTON MOUNTAINS WILDERNESS



of the maximum SDI (400) for the stand, a pinyon - juniper SDI of 40, tree removal activities within that stand would be triggered. See Appendix C for more detail on the use and calculation of SDI and related indices.

Treatment implementation would occur by removing pinyon pine and juniper trees by hand using manual tools including hand saws, crosscut saws, clippers or other non-motorized tools. Slash would be scattered over as large an area as feasible and no closer than 20 feet from the outside edge of the crown radius of a ponderosa or bristlecone pine to prevent jackpots of fuel that could potentially send fire into the crowns of nearby trees. In an effort to integrate migratory bird conservation measures into the pinyon pine and juniper tree removal and to avoid or minimize impacts on migratory bird resources, the following measures would apply:

1) To the extent practicable, project implementation during the nesting season would be avoided.

2) If project implementation occurs during the breeding season (generally March 1 to August 1), a migratory bird nesting survey would be conducted by a wildlife biologist prior to project implementation. Any occupied nests would be monitored and avoided until fledglings have left the nest.

3) The Migratory Bird Treaty Act prohibits taking of migratory birds, their parts, nests, eggs, and nestlings.

All other projects that restore these vegetative communities would be considered with completion of site-specific NEPA.

Wildlife Management

Over the life of this plan, it may be necessary to implement wildlife management activities within the two wilderness areas: 1) to mitigate loss of natural water sources, 2) to mitigate for wildlife habitat loss or fragmentation, 3) to reduce competition among wildlife, livestock, and wild horses, and 4) to reduce competition among wildlife species. Wildlife management activities within these designated wilderness areas will be conducted in conformance with the current (2003) and any subsequent BLM-NDOW Memoranda of Understanding (MOU) (BLM-MOU-6300-NV-930-0402) regarding wildlife management in Nevada BLM Wilderness Areas and guided by the LCCRDA (2004), which may include, on a case-by-case basis, the occasional and temporary use of motorized vehicles or tools. The following pertain to wildlife management activities.

Wildlife Water Developments

Restoration of existing natural water sources is preferred and will be analyzed for wildlife benefit prior to considering artificial water developments. LCCRDA (2004) allows existing and future structures and facilities, including inspections and maintenance, for wildlife water development projects in wilderness when considered essential to preserve, enhance, or prevent degradation of wilderness character. Wildlife water developments are authorized if the structures and facilities will enhance wilderness values by promoting healthy, viable, and more

naturally distributed wildlife populations and the visual impacts can reasonably be minimized. Proposals will be considered for construction of new developments, which may allow motorized and/or mechanized equipment during construction, if determined by the public notification response, MRDG analysis and site-specific NEPA assessment.

Site-specific Actions

Currently, there are no wildlife water developments in either of the two wilderness areas. However, should applications be submitted for development of new wildlife water developments the above process would be followed. Furthermore, should developments be installed parameters for their inspection, maintenance, repair, removal or replacement are listed in Appendix D.

The BLM will consider restoring or improving natural water sources before installing any new artificial water developments. If new water developments are proposed (and subsequent removal, replacement, or modification be required), the Ely District Manager will follow the requirements for processing, analyzing and evaluating such proposals as described in the BLM – NDOW MOU. The Ely District Manager will issue a public notification, prepare a MRDG, NEPA assessment, and appropriate decision documents as prescribed by BLM policy and procedure. If developments are installed in the future, modifications may be made as long as the designed capacity and/or dimensions of the development are not exceeded. Any modifications that exceed the capacity or dimensions would follow the above approval process.

Wildlife Relocation

According to the BLM-NDOW MOU (2003), wildlife transplants (i.e. removal, augmentation, or reintroduction of wildlife species) may be permitted if judged necessary to perpetuate or recover a threatened or endangered species or to restore populations of indigenous (including sensitive) species eliminated or reduced by human disturbance. Locations outside of wilderness boundaries will be utilized first, and if not available, will be implemented in a manner compatible with wilderness characteristics. Transplant projects, including monitoring, require advance written approval from the BLM if the action involves ground-disturbing activities, motorized methods, and/or temporary holding and handling facilities. The BLM will provide review to NDOW on all releases near these wilderness areas. Release of wildlife on public lands will be in conformance with BLM Manual 1745 (Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife and Plants, 1992) and the BLM-NDOW MOU. A public notification, MRDG and site-specific NEPA assessment would occur for site-specific actions.

If motorized or mechanized means are authorized, staging would occur outside the wilderness boundary. When feasible, the specific project implementation will occur during periods when visitor use is low (for example, weekdays). In order to inform visitors of impending activity, relocation dates would be posted on the BLM website two weeks in advance.

Wildlife Damage Management

To maintain the areas' natural character, wildlife damage management may be necessary to protect federally listed, declining, and reintroduced indigenous wildlife species; to prevent transmission of diseases or parasites affecting other wildlife and humans; or to prevent

considerable loss of livestock. Wildlife damage management is conducted at the request of federal, state, or local agencies, private organizations, and individuals.

Activities would use the minimum amount of control necessary to resolve wildlife damage problems. Acceptable control measures include lethal and non-lethal methods, however, toxicants and M-44 devices (sodium cyanide) are prohibited. Activities would be conducted on foot and may include the use of stock. Use of motorized vehicles, motorized equipment, and/or mechanical transport must be approved by the BLM on a case-by-case basis. Activities occurring in wilderness would be approved by the BLM and conducted in conformance with the BLM-APHIS MOU (1995) and BLM Manual 8560 (Management of Designated Wilderness).

Wild Horse Management

No Herd Management Areas (HMAs) overlap either wilderness. Therefore, all horses are targeted for removal in these wilderness areas. However, some horses may remain or emigrate from HMAs or other areas leading to periodic gathers to achieve a zero level in wilderness. If the Minimum Requirements Analysis results in motorized means for horse gathers, aircraft, including helicopters, may be used to survey, capture, and monitor wild horses or burros. However, aircraft may not land inside wilderness boundaries except in cases of emergency or by approval from the Ely District Manager. In cases where impacts to springs and riparian systems result from wild horses or burros, mitigation measures may be employed to prevent further degradation or to restore wilderness character.

Fire Management

Fire management objectives in the wilderness areas would be structured in accordance with the 2008 Ely District Fire Management Plan (FMP) and the Ely District Approved Resource Management Plan (2008). If the FMP is updated over the life of this plan, the new policies would be followed. According to the RMP, the overall objectives for fire management are "To manage wildland and prescribed fires as one of the tools in the treatment of vegetation communities and watersheds to achieve the desired range of condition for vegetation, watersheds, and other resource programs (e.g., livestock, wild horses, soils, etc.)." For details regarding fire management units within wilderness, including maps, see Fire Management under Affected Environment and Environmental Consequences Page 75.

Appropriate Management Responses (AMRs) would be developed following the initial report for wildland fires in the planning area and would include a range of specific actions including monitoring or fire for resource benefit, confinement, initial attack and suppression/extinguishment, or wildfire suppression with multiple strategies, and may include use of mechanized equipment and retardant. AMR would be determined for each wildland fire based on site factors, including fuel loading and fire behavior, protection of natural and cultural resources, and the circumstances under which a fire occurs, while ensuring the safety of firefighter, the public, and protection of private property. Wildfire management priorities include maintaining native vegetation diversity by managing fire size to minimize the spread and density of noxious or invasive weeds, such as red brome. Minimum Impact Suppression Tactics

(MIST) guidelines would be followed in an effort to minimize impacts to wilderness character. Any actions deemed necessary by the Incident Commander for public and firefighter safety would be authorized.

Fire Suppression Guidelines

Minimum cost and consistency with resource objectives will be considered. The following points would guide suppression within wilderness:

- A Wilderness Specialist would be dispatched to all fires occurring in or threatening a wilderness area.
- Use of any motorized equipment, including heavy machinery such as bulldozers, would be considered for approval by the District Manager only in cases where the fire is threatening human life, property, or wilderness characteristics.
- Helibases and helispots would be located outside of wilderness boundaries. When this is not feasible, the District Manager may approve sites within wilderness that require minimal clearing of natural vegetation.
- Staging areas and fire camps requiring motorized access would be located outside of wilderness unless authorized by the District Manager.
- Staging areas and fire camps that only require non-motorized access may be located in wilderness areas if authorized by the Wilderness Specialist.
- Sling loading materials into or out of wilderness using a helicopter must be approved by the District Manager.
- Helicopters or other aircraft may be used for aerial reconnaissance work.
- The Ely District Office Noxious Weed Prevention Schedule as updated, which identifies best management practices, would be utilized. Suppression equipment would be inspected and washed to prevent the spread of noxious weeds. Wash-down sites would be recorded using a Global Positioning System (GPS) unit, if possible, and reported to the Ely District Office Weeds Coordinator. Camps and other assembly points would not be located in noxious weed infestation areas.
- Use of retardant must be approved by the District Manager; if retardant is not approved, water may be dropped from aircraft or bucket as ordered by the Incident Commander without additional authorization.
- All fire suppression activities in wilderness would use MIST guidelines unless a higher degree or level of fire suppression is required.
- Leave No Trace principles would be used in wilderness areas. All evidence of human activity would be removed or rehabilitated to the maximum extent possible during demobilization.

Suppression Activity Damage

Repair of fire Suppression Activity Damage will generally be planned and implemented by the suppression incident organization, prior to demobilization. Repair may occur with the same type

of equipment that was used for the suppression activity. If motorized earth-moving equipment was used to construct fire lines, then the same type of equipment may be needed for rehabilitation and recontouring.

Emergency Stabilization and Rehabilitation Activities

Following site specific assessments and planning, Emergency Stabilization and Rehabilitation (ES & R) activities may be undertaken in accordance with current Department of Interior policy (620 DM 3 Wildland Fire Management Burned Area Emergency Stabilization and Rehabilitation) and Bureau of Land Management policy (H-1742-1 Burned Areas Emergency Stabilization and Rehabilitation Handbook). As of the end of 2008, ES & R actions have been taken to aerially seed one fire in the Weepah Spring Wilderness (See Map 7, Page 78). The Oreana Fire burned 2,709 acres and 2,196 acres were seeded.

The following points will guide ES & R within wilderness:

1. Natural recovery by native plant species is preferable to planting or seeding. The potential for recovery of existing vegetation and the potential establishment of invasive species should be evaluated prior to recommending seeding or planting. Seeding or planting will only be used when objectives cannot be accomplished without seeding or planting and there is a threat to wilderness values if no action is taken. When seeding or planting is recommended, the use of native material, preferably of local genetic stock, will be first priority. When material of local genetic stock is not available timely or economically, or will not accomplish objectives, then other options may be evaluated.

2. The use of "assisted succession" or other similar techniques that employ the use of non-native species may be approved on a case-by-case basis with site-specific NEPA analysis. The use of non-native seed is appropriate only if 1) suitable native species are not available, 2) the natural biological diversity of the proposed management area will not be diminished, 3) exotic and naturalized species can be confined within the proposed management area, 4) analysis of ecological site inventory information, if available, indicates that a site will not support reestablishment of a species that historically was a part of the natural environment, or 5) resource management objectives cannot be met with native species. (H-1745 Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife, and Plants).

    - "Assisted succession" is a two-phase approach used to prevent an area from being dominated by invasive annual grasses or for manipulating an area that is already dominated by invasive annual grasses. In the first phase, a matrix of perennial plants is established. This matrix may be established using less desirable perennial species such as non-native species, or native species that are not locally adapted. In the second phase, the less desirable perennial plants are replaced or augmented with more desirable perennial plants. The second phase may or may not require active management to remove the less desirable perennials or to introduce more desirable natives. If the less desirable perennials are short-lived, sterile, unable to reproduce successfully on the site, or will not compete well with more desirable natives when those plants become established, then management intervention may not be necessary to remove

the less desirable perennials. If native recruitment of more desirable perennials occurs, then secondary seeding may not be necessary. In some cases, selectively removal of less desirable species or secondary seeding may be necessary. Selective removal projects will follow standards presented in the Noxious and Non-Native Invasive Weeds section (Page 15).

3. The following activities could occur in wilderness and may be approved on a case-by-case basis by the District Manager. These activities would follow guidelines presented in the Fire Suppression Guidelines section (Page 35) and must be necessary to meet minimum requirements for the administration of these two areas as wilderness.

    - The use of overland motorized equipment.
    - The location of helibases and helispots.
    - Sling loading materials into or out of wilderness using a helicopter.
    - Helicopters or other aircraft for aerial seeding.

4. Temporary structures, such as hydrologic, meteorologic, or climatological collection devices, may be approved if deemed essential to flood warning, flood control, or water reservoir operation activities. Exclosure fences to protect seeding may also be approved.

5. Erosion control techniques such as the installation of anchored logs, bales, or wattles; the application of mulch, or the use of other techniques to slow water flow may be approved when their presence would contribute to the long-term enhancement of wilderness character, or are necessary to meet minimum requirements for the administration of these two areas as wilderness.

6. Minor developments and facilities (e.g. kiosks, fences, exclosures, small water pipelines, interpretive or boundary signs, water control structures, corrals, wildlife water developments, trails, etc.) burned or damaged by wildfire could be repaired or replaced to pre-fire specifications when this repair or replacement would contribute to the long term enhancement of wilderness character, or is necessary to meet minimum requirements for the administration of these two areas as wilderness.

7. Non-motorized and non-mechanized visual inspections for hazardous conditions or materials may be conducted. This would not preclude aerial observations, though no landings would be permitted without District Manager approval.

8. Burned or seeded areas may be temporarily closed to the public if unacceptable resource damage would occur, or if danger to the public is present due to fire damage until safety assessments can be completed.

9. Efforts to stabilize and prevent post-fire related degradation to cultural resources including archeological sites, cultural landscapes, traditional cultural properties, and historic structures may be approved.

10. Techniques described in the "Management of Small-Scale Surface Disturbances" may be approved for use in ES & R (Page 37).

Addition guidelines regarding ES & R activities which apply to all BLM managed lands can be found in Burned Areas Emergency Stabilization and Rehabilitation Handbook (H-1742-1) such as grazing closures, and vegetation and soil monitoring.

Protection of Archeological Resources and Historic Properties

Protection of cultural resources is guided by federal laws, the Cultural Resource Inventory General Guidelines (as currently published by the Nevada State Office), and the current State Protocol Agreement between the BLM and the Nevada State Historic Preservation Office. For protection from wildland fire and enhancement of cultural resources, vegetation may be cut back or removed up to several feet from a resource or property such as prehistoric rock art. This would be accomplished before fire season with the use of hand tools like pruning shears and pulaskis. Resource protection and enhancement work would be completed by trained cultural resource specialists or approved District archaeological technicians during routine monitoring visits.

Protection of archaeological resources from damage by wilderness visitors may be accomplished with the minimum necessary on-the-ground action. Resources would be monitored to determine conditions. If monitoring reveals that damage is occurring to cultural resources, the BLM Ely District wilderness planner and archaeologist would work together to develop a management strategy for preventing further damage, including but not limited to education, signage, and natural barriers.

Every attempt would be made for protection of artifacts and other archaeological remains in place. If these are discovered in designated trails, foot-worn hiking paths, or other areas of recreational use, the trail may be re-routed or alternate preservation or protection actions may be taken after consultation with the State Historic Preservation Office according to the standard process followed by the Ely District cultural representative. No ground disturbing actions would occur prior to completion of a cultural resources inventory and completion of the Section 106 process.

Within the vicinity of the Weepah Spring Wilderness area there has been one Cultural Resource Inventory of the resources in the White River Narrows Archaeological District. The district has been placed on the National Register of Historic Places for its rock art and to protect the sensitive archaeological resources of the area. There have been no inventories or resources documented within the remainder of the Weepah Spring Wilderness, and portions of the White River Narrows Archaeological District remain undocumented. There have been no inventories or resources documented within the Worthington Mountains Wilderness.

Many Hands site in Weepah Spring Wilderness

Site Specific Actions

Inventory for cultural resources would be completed at natural springs in proximity to, or within wilderness, and along access and cherrystem routes in an effort to inform management of decisions for the protection of these resources.

General Recreation Activity

A variety of primitive and unconfined types of recreational activities are likely to occur in both wilderness areas. Management actions that may be initiated in response to recreational impacts include, but are not limited to:

- Public outreach and education in Leave No Trace principles to encourage minimum impact practices.
- Provide information to the public on non-wilderness recreational opportunities in the region.
- Establish protective areas around sensitive resources where recreation activities may be restricted.
- Closure of areas to recreation activities. Examples may include areas with sensitive plant and animal species or water resources.

- Campsite management to maintain use at existing sites and prevent unmanaged site expansion or new site establishment.

Hunting, trapping and shed antler collection are allowed in wilderness, subject to applicable State and Federal laws and regulations. Shed antler collection would be allowed for personal use only. Collection for commercial use is prohibited under the Wilderness Act. These activities are and would likely continue to be popular.

The creation or construction of permanent blinds in wilderness areas and wilderness study areas is not allowed (43 CFR 6302.20(f) and IMP Handbook H-8550-1, Chapter I.B.2. and 3.). However, portable or "pop-up" blinds may be temporarily allowed for hunting, photography, wildlife observation and similar purposes for a period of fourteen (14) days if they are packed or carried in and out and do not require the disturbance or destruction of native soil, rock, or vegetation.

Portable and "pop-up" blinds must be attended or occupied at least some portion of a ten day period within the 14 day period of use. If blinds are not attended or occupied for 10 days, they will be considered unattended property and/or permanent structures and will be subject to removal by the BLM (43 CFR 8365.1-2(b)) and subject to disposition under the Federal Property and Administrative Services Act of 1949, as amended.

It is suggested that anyone who packs or carries a portable or "pop-up" blind into a wilderness or wilderness study area affix to the blind his or her name, address, phone number, the date the blind was placed, and the dates the blind will be unattended or unoccupied. This request would be made in any hunter mailings regarding wilderness.

Recreational horseback riding and use of pack stock animals will be allowed both on and off trail. Other than incidental browsing, riding and pack stock animals may only be fed with packed-in, certified weed-free feed (hay or grains).

According to BLM Wilderness policy, any fuelwood cutting in wilderness would be limited to dead and down material.

Rock-hounding may be conducted for non-commercial purposes on a limited basis. Collection of "common" invertebrate and plant fossils will be allowed for non-commercial purposes. Removal of these items must be in a manner that preserves the wilderness environment using no more than non-motorized hand tools and causing minimal surface disturbance (Section 6301(1) Paleontological Resources Preservation Act of 2009). Seed collection, such as pine nuts, for personal use is allowed.

Traditional geocaching and letterboxing will not be allowed, yet virtual geocaches would be an accepted activity within wilderness. Traditional geocaches and letterboxes would be removed when encountered, and visitors wishing to participate would be directed to locations outside wilderness. In the instance that a virtual geocache identifies a sensitive site (such as cultural or biological) the sponsor will be asked to remove the cache from the internet.

Camping

Backcountry camping will be allowed. Occupying a campsite will be allowed for up to 14 days. Should a visitor wish to camp longer than 14 days, their camp must be relocated a minimum of 25 miles from the previous site (Federal Register Notice, Vol. 58, No. 191, October 5, 1993). If monitoring shows that the 14-day stay limit is leading to unacceptable resource impacts, site stay limits of less than 14 days could be implemented.

Campfires would be allowed except under fire hazard restrictions. Visitors would be allowed to collect dead and down fuelwood for personal campfires during their trip. Leave No Trace camping techniques would be encouraged through literature and BLM-sponsored Leave No Trace public workshops. If more than two campsites (identified by the presence of a campfire rock ring) are identified within a quarter mile of each other, the least impacted site would be restored to a natural condition to minimize additional camping disturbance. Campsites closer than 300 feet to sole water sources would also be removed in compliance with state regulations.

Managing to Maintain Solitude

These wilderness areas currently enjoy outstanding opportunities for solitude and are infrequently visited, thus numeric standards for frequency of visitor encounters or group size limits will not initially be established. Large groups (e.g. 12 or more) inquiring about recreational opportunities will first be directed to locations outside of wilderness, while small groups (e.g. less than 12) may be directed to locations within wilderness. If the wilderness character of solitude becomes degraded, the following management actions, in order of priority, may be initiated:

- Educate visitors concerning Leave No Trace recreation ethics to reduce conflict with other visitors.
- Provide information to the public on non-wilderness recreational opportunities in the region.
- Establish a group size limit.
- Reduce maintenance levels on access points and boundary roads
- Provide public information outside wilderness boundaries and/or information on non-wilderness opportunities.
- Plan revision with additional public input to reassess these standards and/or implement more direct controls.
- A combination of the above methods.

Site Specific Actions

The Worthington Mountains Trailhead would be slightly enlarged to accommodate vehicle parking (see site plan on Page 26).

Weepah Spring Wilderness

Management of Recreational Caving and Climbing

Recreational caving and climbing are acceptable activities in wilderness and will be allowed to continue as long as there are no irreversible impacts to cave resources and wilderness. Caves are protected under the Federal Cave Resources Protection Act of 1988. The purpose of the act is twofold: to "secure, protect, and preserve significant caves on Federal lands for the perpetual use, enjoyment and benefit of all people" and "to foster increased cooperation and exchange of information between governmental authorities and those who utilize caves located on Federal lands for scientific, educational, or recreational purposes."

All persons engaged in these activities would be responsible for having appropriate equipment and necessary technical skills. Any human effects left for the purpose of recreational caving and climbing (i.e. ropes, ladders, and temporary devices) would be considered abandoned property and would be removed. Items would be retained at the District Office for 30 days. This would assist in resource protection, maintain the undeveloped character of wilderness, and provide for public safety.

The use of natural anchors for rigging ropes would be used when possible. Temporary anchoring devices such as nuts, cams, and slings would be allowed. The use of permanent fixed anchors,

such as bolts and pitons, would be allowed to reduce impacts to vegetation or soils or to improve climbers' safety. Climbers or others may use hand-powered drills to place permanent fixed anchors. Power drills may not be used to place permanent fixed anchors in non-emergency situations. Damaging practices, including chiseling or chipping rock, forcibly prying off rock, gluing or otherwise affixing artificial holds on rock and destroying vegetation to enhance a route will be prohibited.

Alterations to cave resources such as digging, moving of rocks or enlargement of passages to allow explorations will not be allowed, and removal of natural components of the cave is prohibited. Human waste, trash, or other debris shall be removed. Transport of fuelwood into caves and campfires therein is prohibited and any evidence would be removed. Disturbance to cultural resources, as a result of caving and climbing activities is prohibited in accordance with the Archaeological Resources Protection Act (ARPA) of 1979.

Recreational use monitoring will take place through the use of a cave register located on the floor of the entrance of Leviathan Cave. Current use is approximately 40 visitors per year. Also, an infrared trail counter will be installed to obtain addition use information.

The BLM will encourage Leave No Trace and Minimum Impact Caving principles and techniques to minimize impacts. Information, educational materials, and prohibitions regarding cave resources and climbing will be provided on information kiosks for the area, BLM brochures, and on the Ely District Office website. Publicity of cave locations will be kept to a minimum, in order to protect them.

Entrance to Leviathan Cave in the Worthington Mountains Wilderness

The BLM recognizes the threat of White Nose Syndrome (WNS) expanding into the Western U.S. If WNS reaches the BLM Ely District, the most current policy regarding WNS will be followed. In the interim, adherence to the U.S. Fish and Wildlife Service's procedures for decontamination to prevent the spread of the disease by humans is required for all employees and volunteers and is encouraged for public entry.

Site-Specific Actions

Given the complexity of management and need for additional data for Leviathan Cave, the BLM will develop a separate Cave Management Plan. The cave management plan will address the proposal to install a gate to protect sensitive cave resources and other cave specific issues. It will be completed in the next two years.

The self-register box located within Leviathan Cave will be replaced with an aluminum box of similar dimensions, raised off the ground on a post.

The seven bolted climbing routes in White River Narrows (Weepah Spring Wilderness) would remain (see Map 2 on Page 17). These routes all lie within an area of ¼ mile, just off Highway 318.

Management of Environmental Education and Interpretation

General interpretive information regarding natural and cultural resources and recreation opportunities in wilderness will be located on kiosks outside of wilderness, in brochures and pamphlets, on BLM recreation maps, and at the BLM Ely District Office website. A brochure specific to eastern Nevada wilderness (Lincoln and White Pine Counties) has been developed and is distributed across Nevada. Other information presented in the above sources will include wilderness area descriptions, designated trails, interpretive information, as well as wilderness ethics and Leave No Trace principles. Additional information on kiosks can be found in the Sign Plan section (Page 27). Whenever possible, language would be phrased in a positive light. No interpretive trails would be designated.

When feasible, the BLM will collaborate with other agencies, non-government organizations, and individuals, including authors of media or guide books, in the presentation of basic information. The BLM will continue to coordinate with NDOW to include wilderness information on the maps and regulation in the Nevada Hunt Book and on the NDOW website.

Public outreach for Leave No Trace recreation ethics will be emphasized using classes and workshops presented at local schools and in the field. A separate wilderness public education plan has been developed for programs related to designated wilderness. Further informal education occurs on the ground as BLM personnel and volunteers contact visitors and provide on-the-spot education, generally relating to wilderness regulations and Leave No Trace principles.

Commercial Use Restrictions

Section 4(c) of the Wilderness Act (1964) prohibits commercial enterprises, such as commercial pine nut harvesting, commercial antler collection or logging operations, to be located within wilderness. Commercial services, such as outfitters and guides or and pack stock rentals, may be performed within wilderness. Section 4(d) of the Wilderness Act states that commercial services are allowed, "...to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas." Therefore commercial services that are not wilderness-dependent or do not contribute to wilderness character or public education will be prohibited.

Commercial guiding would be permitted for:

- Hunting.
- Academically-oriented organizations whose primary purpose is wilderness or environmental education.
- Organizations whose service is primarily for the support of people with disabilities.
- Wilderness Therapy groups.

Outfitters and guides would be subject to statewide BLM special recreation permit stipulations for commercial hunting/fishing guides as well as the same regulations as other visitors to these wilderness areas, unless otherwise stated in special recreation permits. Management of guides and outfitters would be in conformance with the BLM Ely District Resource Management Plan (2008), the Wilderness Act (1964), and LCCRDA (2004). Limits on the number of commercial guides may be implemented if monitoring identifies excessive impacts to wilderness character or resources. Academic and other organizations listed above requesting use of wilderness would be required to obtain a use authorization, on a case-by-case basis. Stipulations may include group size limits, camping outside wilderness, seasonal restrictions or collection limits.

Law Enforcement

Enforcement of wilderness laws and federal regulations will be performed by uniformed BLM law enforcement rangers. BLM staff, contractors, and volunteers may indirectly assist law enforcement rangers by providing information regarding wilderness-related violations. Wilderness and law enforcement rangers will conduct patrols within wilderness on foot or horseback and along the perimeter using motorized vehicles. Contingent upon District Manager approval, motorized equipment, including helicopters may occasionally be allowed within wilderness when necessary to meet temporary emergencies involving violations of criminal law and/or including the pursuit of fugitives, or operations involving search and rescue.

Research

Research proposals investigating indigenous plant communities, wildlife, cultural resources, and the human dimensions of wilderness would be considered. Research may also be permitted in Leviathan Cave, on a case-by-case basis. Proposals must contribute to the enhancement of wilderness character or the improvement of wilderness management. All proposals will be subject to the restrictions and standards of BLM Manual 8560, the Wilderness Act (1964), LCCRDA (2004), the current BLM-NDOW MOU, as well as appropriate standards outlined in this WMP.

Research proposals that do not contribute to the improved management of the area as wilderness will not be permitted if they can be accomplished outside of wilderness and/or cannot be conducted in a manner compatible with the preservation of the wilderness environment.

Research and other studies must be conducted without use of motorized equipment or construction of temporary or permanent structures. Exceptions may be approved for projects that are essential to managing the specific wilderness areas when no other feasible alternatives exist. Such use must be necessary to meet the minimum requirements for administration of the area as wilderness and must not degrade wilderness character. A site-specific NEPA analysis would have to be prepared for the authorization of research proposals.

Water Rights

There are no Federal reserved rights as per the terms in the wilderness enabling legislation LCCRDA (2004). The BLM may acquire additional State appropriative water rights within the wilderness areas to sustain riparian habitat, provide water to wildlife, or support recreation. Existing water rights may be purchased from willing sellers or jointly managed with other agencies through cooperative agreements. All water rights actions will be in conformance with LCCRDA (2004). However, new water resource developments not related to wildlife are prohibited by LCCRDA (2004). In Appendix E, a table lists existing water rights within the boundaries of these two wilderness areas.

Structures, Installations and Other Human Effects or Disturbances

Any currently existing or future summit registers would not be removed. Other structures and installations may be removed if they are not authorized, if they are not the minimum necessary for the administration of the area as wilderness, or if they are not associated with a prior use or valid existing right.

BLM staff and volunteers that monitor wilderness will be given instructions on the identification of human effects that would be considered unattended personal property or refuse.

Unattended personal property not associated with an active camp will be removed by BLM personnel, and held for 30 days at the appropriate BLM District or Field Office. If possible, the owner of the personal property would be contacted.

Human effects which may be old enough to be considered cultural artifacts would be photographed for further consideration by an archaeologist. Cultural resources will be left in place unless protection measures described in the Protection of Archaeological Resources and Historic Properties section (Page 39) are insufficient and removal is deemed a last resort. Removal of cultural resources would not occur without full compliance with mitigation and protection requirements and processes.

If mine adits or shafts are found in these wilderness areas – and are not eligible for the National Register of Historic Places – they may be filled in or closed in order to enhance wilderness character and public safety using compliant actions such as, but not limited to, hand tools, foam plug, and dynamite filling. NEPA and MRDG analyses would be required for certain actions including, but not limited to, bulldozers and bat gates. If mine adits or shafts are proposed for closure, bat and cultural surveys would be conducted.

Climate, Weather, and Water Monitoring Data Collection Devices

The installation of collection devices for climate, weather, or water monitoring may be considered in wilderness. Devices would have to conform to visual resource management (VRM) Class 1 goals and would be subject to NEPA and MRDG analyses. Section 121 in the Lincoln County Recreation and Development Act of 2004 states:

> Subject to such terms and conditions as the Secretary may prescribe, nothing in this title precludes the installation and maintenance of hydrologic, meteorological, or climatological collection devices in the wilderness areas designated by this title if the facilities and access to the facilities are essential to flood warning, flood control, and water reservoir operation activities.

Site Specific Actions

On Weepah Spring Wilderness, there are areas of obsolete pipe and miscellaneous garbage which will be removed. The mine shaft shown on Map 2 is just outside wilderness. No action will be taken on it. On the Worthington Mountains Wilderness, non-operational ordnance (see photo below) will be sling-loaded and removed.

Military Operations

Military training exercises on the ground would not occur within the two wilderness areas. The airspace over the Weepah Spring and Worthington Mountains Wilderness areas is critical to the testing, training, and tactics development for United States Air Force aircraft and pilots. The area is used by all branches of the Department of Defense and the United States' allied countries. Aircraft are authorized to operate in these areas at and above 100 feet above ground

level. Supersonic flight is also authorized in these areas at and above 30,000 feet Mean Sea Level.

Directions for handling military operations would distinguish between non-emergency and emergency situations. Non-emergency incidents might include such activities as the release of flares or the recovery of aircraft parts. Emergency situations may include, but are not limited to, the retrieval of downed aircraft, the rescue of pilots, or the recovery of live ordnance.

Non-emergency military actions may be approved on a case-by-case basis following MRDG analysis, environmental assessment and authorization from the Ely BLM District Manager. The Ely District Office Noxious Weed Prevention Schedule (i.e., equipment inspection and washing, recording of wash-down sites, notification of the weeds coordinator, and avoidance of noxious weed infestation areas) will be utilized for non-emergency actions, as will Leave No Trace principles. All evidence of human activity would be removed to the maximum extent possible.

Emergency military actions involving prohibited uses identified in Section 4(c) of the Wilderness Act (1964) (e.g. motorized vehicles and mechanized equipment, mechanical transport, landing of aircraft etc.) is allowed within wilderness without prior analysis, assessment, or authorization provided the 99th Airbase Wing Commander or his designated representative notifies the Ely BLM District Manager at the onset of the emergency or immediately thereafter.

Any military operations concerning aircraft mishaps or dropped object incidents would also be in compliance with current Memorandum of Understanding between the BLM and Nellis Air Force Base in place at the time of the incident.

Monitoring Program

Monitoring tracks the outcome of proposed activities on the qualities of wilderness character previously defined (Page 6). A single activity is likely to affect several qualities of wilderness character. For example, an activity such as weed control is intended to restore natural conditions over the long term but may diminish the untrammeled condition of the wilderness in the short term. These two separate outcomes, the improvement of "naturalness" and decreased "untrammeled nature," will be monitored separately.

On the other hand, separate activities undertaken for different purposes may cumulatively diminish the same qualities of wilderness character. For example, a trail might be designated to control visitor impacts on vegetation. In the same vicinity, a fence or barrier may be in place to protect sensitive resources from recreational impacts. Though the two activities are unrelated, both activities have an effect on the "undeveloped" quality of wilderness character. Monitoring the effects of single activities to multiple qualities of wilderness character will improve understanding of the effects upon wilderness character in combination and over time.

Effects of intentional, incidental, and unauthorized activities will be captured under the monitoring system. The monitoring program will provide a greater understanding of the overall and specific condition of each wilderness area. Information generated in monitoring wilderness

conditions will indicate: 1) the current state of wilderness character; 2) how wilderness character is changing over time; 3) how stewardship actions are affecting wilderness character; and 4) what stewardship priorities and decisions would best preserve and sustain wilderness character.

Monitoring will also provide Wilderness Managers with more complete information, which will improve the evaluation of future proposed activities. However, monitoring will not be used to compare conditions and changes within these wilderness areas with other wilderness areas in the National Wilderness Preservation System. Monitoring will also occur to comply with the guide "Measuring Attributes of Wilderness Character, BLM Implementation Guide, Version 1.4" (and subsequent updates). The following monitoring is associated with specific wilderness characteristics.

Untrammeled

- A log of all known human alterations to the ecosystem such as annual management and other activities that control or manipulate flora, fauna, soils, water, or natural disturbance factors present in the wilderness will be maintained in each area's permanent wilderness file. A description, location, purpose, and expected outcome of each activity would be documented. Activities that may be tracked include:
    - Campsite expansion and dispersion.
    - Rehabilitation projects.
    - Vegetation restoration and fuels treatment projects.
    - Fire suppression activities.
    - Emergency Stabilization and Rehabilitation activities.
    - Treatments of noxious or invasive vegetation.
    - Wildlife management activities.
    - Periods of livestock grazing.
    - Cultural and historic resource protection projects.

Solitude and Primitive, Unconfined Recreation

- A log of sights and sounds of civilization would be maintained in each area's permanent wilderness file. A description and location of the activity inside or outside wilderness would be documented.

- A log of all regulations or restrictions occurring in the wilderness areas will be maintained in each area's permanent wilderness file. A description of the regulation and its purpose will be documented.

- Visitor use encounters on designated trails would be monitored through one or more of the following methods:

- Visitor sign-in and comment forms at trailheads and access points.
- Public comment received by mail or by e-mail.
- Automated visitor counters may be located at trailheads or access points.
- Wilderness rangers or volunteer stewards will visit trailheads and access points at least once every two months to record the number of vehicles and collect written comments or other trail data.

- Wilderness rangers or volunteer stewards will hike each trail at least twice a year to record the number of encounters and trail conditions. Trail conditions will be recorded using a Global Positioning System (GPS) and photos would be taken as needed.

- The wilderness areas will be monitored at boundary roads and access points at least once every three months by wilderness staff and law enforcement rangers or volunteer stewards to detect any unauthorized uses. Additionally, over-flight and aerial surveillance monitoring will occur twice annually to assist in detecting unauthorized uses.

- Campsites would be recorded by the wilderness ranger to assure compliance with Plan standards. GPS coordinates and photos would be taken for campsites to track long-term trends.

- Popular hunting areas will be monitored regularly by wilderness rangers, law enforcement rangers, or volunteer stewards for motorized trespass, foot-worn hiking paths, and proliferation of campsites during hunting.

Undeveloped and Primeval Character

- A log of all the developments, structures, and facilities present in the wilderness areas, both permanent and temporary, will be maintained in each area's permanent wilderness file. A description, location, purpose, and expected outcome of the feature will be documented.

- All former decommissioned routes and other rehabilitated disturbances will be assessed for motorized use at least twice a year. Photo points will be established at the time of reclamation, and photos will be taken as part of the semi-annual monitoring. If unauthorized vehicle use or other forms of disturbance continue, actions will be implemented to halt unauthorized vehicle use or other forms of disturbance.

- Popular hunting areas within these wilderness areas will be monitored during hunting season. Permanent blinds are not allowed and will be removed. Portable and "pop-up" blinds are allowed but must be attended or occupied at least some portion of a ten day period within the 14 day period of use. If blinds are not attended or occupied for 10 days, they will be considered unattended property and/or permanent structures and will be removed.

Naturalness

- A log of natural disturbances will be maintained in each area's permanent wilderness file. A description and location will be documented or referenced. Activities that may be tracked include:
  - Flood.
  - Fire.
  - Insect or disease outbreak.
  - Air quality using hand held devices.
  - Presence, abundance, and distribution of native species.

- Monitoring for noxious and invasive weeds will occur on a regular basis, with an emphasis at springs, on trails, known weed infestations, or in washes receiving regular visitor use.

- Wildlife monitoring will be accomplished primarily by NDOW and the United States Fish and Wildlife Service, according to the agencies' established protocol. The BLM wilderness rangers will also record wildlife sightings, in particular for nesting raptors, special status species, and bighorn sheep. Monitoring or research by other entities may occur according to protocol described in the Plan.

- Findings, or a reference to the findings, from inventory, monitoring, and research projects will be included in each area's wilderness file. Other documented research outside of wilderness but applicable to the understanding of wilderness ecosystems may be referenced.

- Monitoring to assess the effects of recreation on wildlife habitat use and behavior will occur if feasible monitoring methods are developed

- Monitoring will be included to account for changes to the natural fire cycle occurring from introduced annual grasses. This additional monitoring will aid fire management in determining AMR on an annual basis. For fires having greater potential to convert native vegetation to unnatural annual grass-dominated vegetation, fire management will have better information to adjust response to the most active suppression response compatible with the fire management objectives and procedures for the area.

- Monitoring archaeological resources and historic properties regularly by BLM staff and through the cultural site steward program will be done frequently at known sites and for areas of high visitor use.

Ambush Canyon in Weepah Spring Wilderness

Monitoring of Site-Specific Actions

- Additional monitoring will occur for the following site-specific actions associated with the attached environmental assessment in order to ensure that wilderness character is protected and that undue impacts to other resources are not occurring as a result of the proposed actions:
  - Success of weed treatments.
  - Rehabilitation of small-scale disturbance.
  - Recreational use of trail.
  - Use of staging areas.
  - Effectiveness of sign plan.
  - Cave visitation.

Plan Evaluation

The Plan will be revised when the management actions prescribed no longer meet the wilderness management objectives, or when a change in the existing situation warrants revised management. The need for revision will be reviewed every five years. If the decision is made to

revise this Plan, it will be accomplished with public participation. Minor revisions such as typographical or cartographical errors may be made by inserting an errata sheet.

Plan Implementation Sequence

The following list shows the priority sequence for accomplishing management activities of this Plan. The actual implementation could be altered based on funding and staff availability outside the control of this Plan.

Ongoing activities

- Maintenance of boundary signs.
- Vegetation clearing around archaeological resources.
- Visitor information dissemination.
- Wilderness monitoring:
  - Visitor use monitoring.
  - Natural resource monitoring.
  - Trail condition monitoring.
  - All other wilderness character monitoring.

Site-Specific Projects

Implementation would not require additional NEPA analysis for the following projects because they are analyzed in the EA associated with this plan:

- Archaeological, botanical and threatened and endangered species clearances to support plan implementation.
- Reclamation:
  - Former vehicle routes.
  - Campsites.
  - Prospecting disturbance.
  - Vehicle access parking points established.
- Staging areas.
- Removal of unnecessary structures and installations.
- Maintenance, modification, or removal of livestock developments, as appropriate.
- Fire Management Plan.
- Herbicide treatments for salt cedar.

Changing Conditions Requiring Subsequent NEPA Analysis

- New visitor impacts.
- New trail designation:
  - Trail preparation (improvement of sections not currently within standards).

- Trailhead development.

- Management of social conditions;
  - Visitor use regulations and/or supplemental rules.
  - Group size limits.
  - New sign or kiosk installation.
- NEPA following non-conforming fire management and suppression actions.
- Large weed control projects.
- Write and publish supplemental rules for all visitor use standards established in the Plan as specified under 43 CFR 8365.1-6.

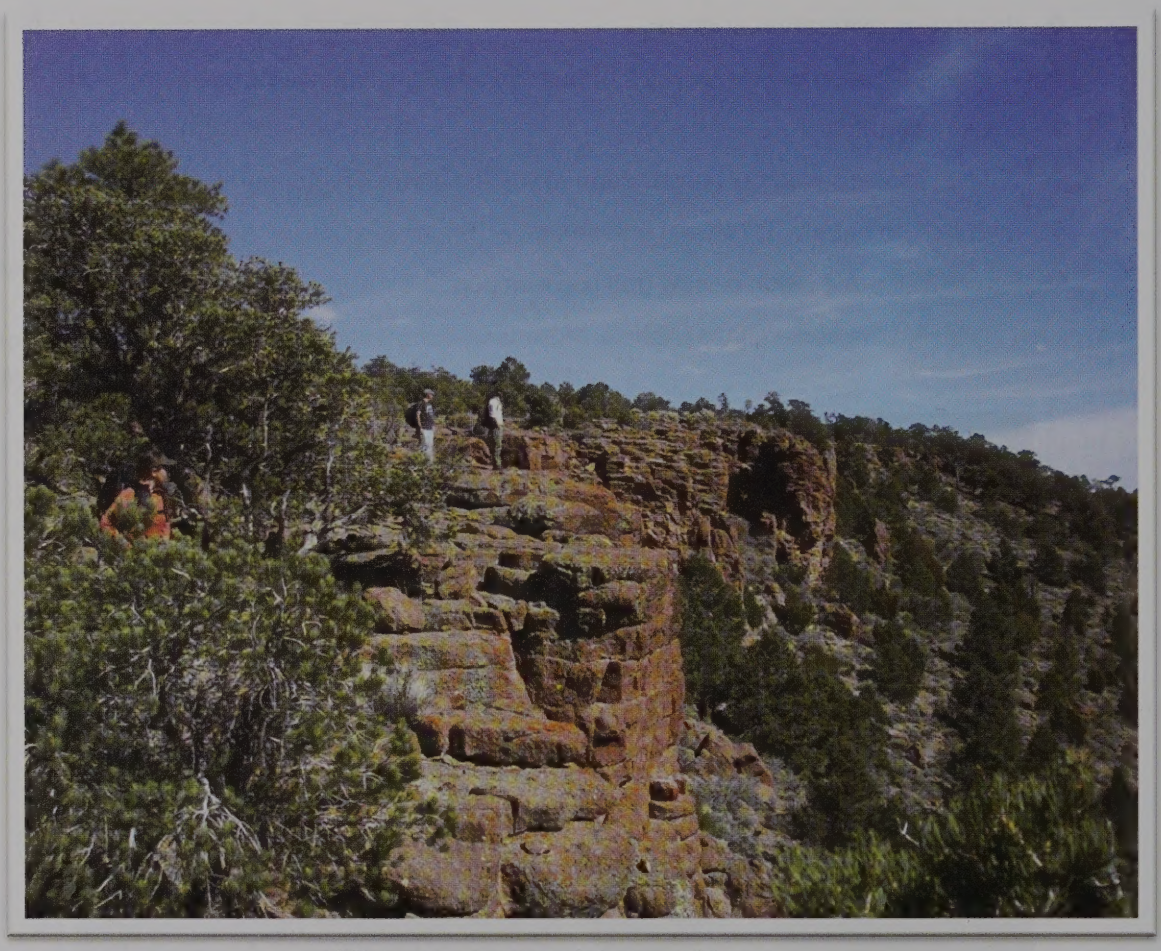
Potential Future Proposals Requiring Subsequent NEPA Analysis

- Riparian area restoration needed to mitigate wild horse and livestock grazing impacts.
- Vegetation restoration projects.
- Fire rehabilitation or Emergency Stabilization and Rehabilitation projects.
- Guiding permits.
- Wildlife projects (such as construction of wildlife water developments).
- Research on natural or cultural resources.
- Future trail designation or new trail construction:
  - Trailhead development.

Historic Corral in Weepah Spring Wilderness

U.S. Department of the Interior
Bureau of Land Management
Nevada State Office
Ely District Office

Weepah Spring Wilderness
Worthington Mountains Wilderness



Cliff Top View in Weepah Spring Wilderness

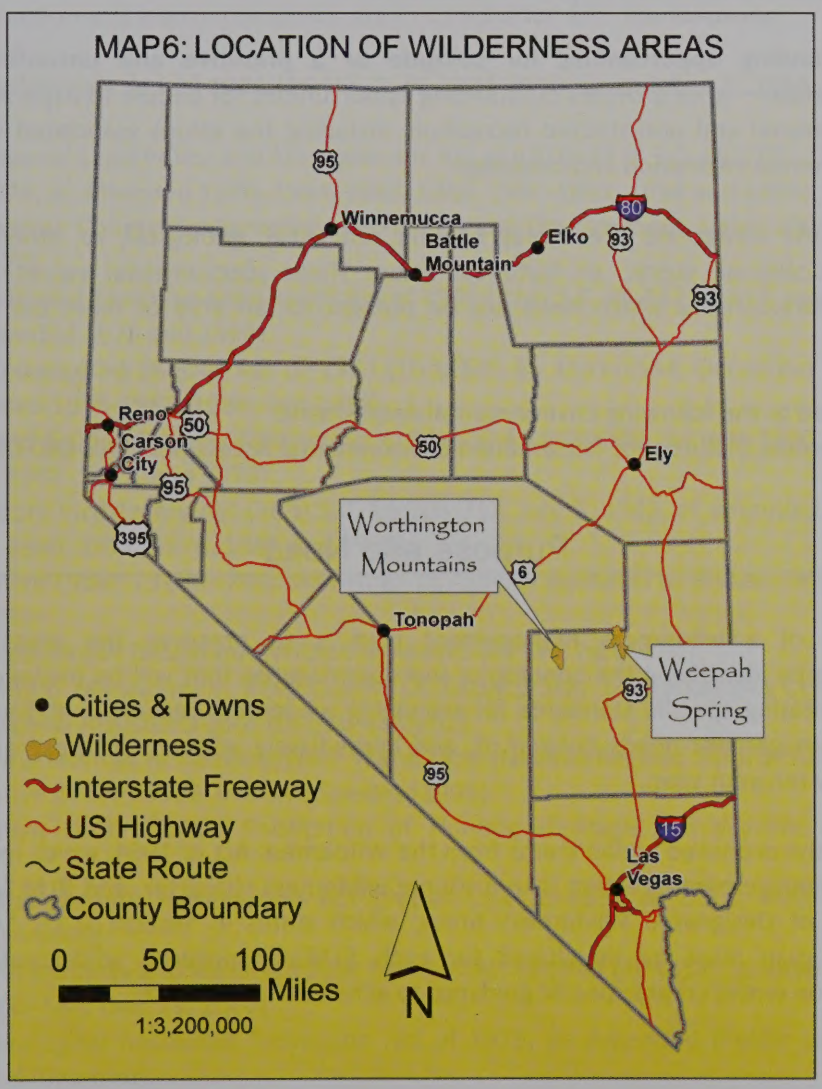
Environmental Assessment

DOI-BLM-NV-L000-2010-0008-EA
June 17, 2011

Background Information

Introduction

The BLM Ely District Office proposes to adopt and implement a Wilderness Management Plan (WMP) for the Weepah Spring and Worthington Mountains Wilderness areas during fiscal year 2011. These wilderness areas are situated in proximity to one another in eastern Nevada, 70 to 110 miles south of Ely. They are primarily within Lincoln County, except for portions of the Weepah Spring Wilderness which lies in northeastern Nye County (See Map 6, below). These areas were designated as wilderness by the Lincoln County Conservation, Recreation and Development Act of 2004 (LCCRDA; Public Law 108-424 November 30, 2004).



The United States Congress established the National Wilderness Preservation System to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States. Wilderness designation is intended to preserve and protect certain lands in their natural state. Only Congress, with Presidential approval, may designate public lands as Wilderness. The Wilderness Act of 1964 identifies wilderness uses and prohibited activities. Although wilderness character is a complex idea and is not explicitly defined in the Wilderness Act, wilderness characteristics are commonly described as:

- **Untrammeled** — area is unhindered and free from modern human control or manipulation.
- **Natural** — area appears to have been primarily affected by the forces of nature.
- **Undeveloped** — area is essentially without permanent improvements or human occupation and retains its primeval character.
- **Outstanding opportunities for solitude or a primitive and unconfined type of recreation** — area provides outstanding opportunities for people to experience solitude or primeval and unrestricted recreation, including the values associated with physical and mental inspiration and challenge.

Additionally, the wilderness areas may contain ecological, geological, or other features of scientific, educational, scenic, or historical value. These supplemental values are optional wilderness characteristics which need not be present for an area to meet the definition of wilderness.

This EA is tiered to the following Environmental Assessment:

- Wilderness Disturbance Reclamation Environmental Assessment (NV-040-05-010).

Purpose and Need

The purpose of a wilderness management plan is to preserve the areas' wilderness characteristics by identifying the conditions and opportunities that will be managed for within wilderness, creating specific standards for managing wilderness resources and activities, and identifying management needs outside of, and immediately adjacent to these areas over an approximately ten-year span.

The need for the proposed action stems from the Wilderness Act of 1964, which mandates that the primary management direction is to preserve wilderness character, and BLM Manual 8560, Management of Designated Wilderness Areas, which states in Section .2.21, "A wilderness management plan must be developed for each BLM-administered wilderness area." The proposed action would create specific guidance to achieve this mandate.

Relationship to Planning

This plan has been analyzed within the scope the Ely District Resource Management Plan (2008) and has been found to be in conformance with the goals, objectives, and decisions of the Decision Summary and Record of Decision.

BLM planning regulations (43 Code of Federal Regulations 1610.3.2[a]) require that BLM resource management plans be consistent with officially approved plans of other federal, state, local, and tribal governments to the extent those plans are consistent with federal laws and regulations applicable to public lands. Although this regulation does not apply to other official plans created after the land use plan is implemented, the BLM strives for management decisions to be consistent with other official plans.

Compliance with Executive Orders, Laws, Statutes and Regulations

The proposed action and alternative action are in compliance with the following:

- The Wilderness Act of 1964 (16 U.S.C. §§ 1131-1136, September 3, 1964, as amended 1978).
- The Federal Land Policy and Management Act of 1976 (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996).
- The Lincoln County Conservation, Recreation and Development Act of 2004 (Public Law 108-424).
- The National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994).
- The Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544, December 28, 1973, as amended 1976-1982, 1984, and 1988).
- Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d, June 8, 1940, as amended 1959, 1962, 1972, and 1978).
- Migratory Bird Treaty Act (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989).
- Executive Order 13186—Responsibilities of Federal Agencies to Protect Migratory Birds (2001).
- Management of Designated Wilderness Areas (43 CFR Part 6300).
- Recreation Management Restrictions: Occupancy Stay Limitation (43 CFR 8365.1-2(a) and Federal Register Notice NV-930-4333-02).
- Unlawful Manner of Camping Near Water Hole (Nevada Revised Statute 503.660).
- Executive Order 13112: Invasive Species (1999).
- Executive Order 13443: Facilitation of Hunting Heritage and Wildlife Conservation (2007).
- National Historic Preservation Act (Public Law 89-665; 16 U.S.C. 470 as amended through 2000).
- Federal Property and Administrative Services Act of 1949 (40 U.S.C. as amended through P.L. 106–580, Dec. 29, 2000).
- Archaeological Resources Protection Act of 1979, As Amended (Public Law 96-95; 16 U.S.C. 470aa-mm).
- Wild Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195).

- Federal Cave Resources Protection Act of 1988 (Public Law 100-691; 16 U.S.C. § 4301, as amended through Public Law 106-170, 1999).
- Secretarial Order No. 3226 Amendment No. 1 – Climate Change and the Department of the Interior.
- Secretarial Order 3289 – Addressing the Impacts of Climate Change on America's Water, Land and Other Natural and Cultural Resources.

Relationship to Policies and Guidelines

The proposed action and alternative action are in conformance with the following guidelines, manuals and handbooks:

- Grazing Guidelines (House Report No. 101-405, Appendix A).
- Wildlife Management Guidelines (House Report No. 101-405, Appendix B).
- Management of Designated Wilderness Areas (BLM Manual 8560).
- Wilderness Management Plans (BLM Manual 8561).
- BLM Emergency Stabilization and Rehabilitation Handbook.

Issues

Issues addressed in this EA were identified through internal and public scoping during the development of the wilderness management plan, which is the proposed action. Internal scoping was done via meetings and written communications with BLM resource specialists. BLM staff conducted public scoping in the form of public workshops, meetings, written letters, and email. The BLM received 43 comments during the initial public scoping. For details, see the Wilderness-Specific Issues section on Page 9 of the WMP.

All resources considered or analyzed in this Environmental Assessment are displayed in Table 1 of this EA (See Page 72). The BLM considered all issues and concerns received through internal and external scoping that relate to wilderness resource conditions during the development of the alternatives. The BLM judged certain issues and concerns to be out of the scope of this analysis and were not further considered.

Description of the Proposed Action and Alternatives

Proposed Action

The WMP, the first half of this document, is proposed for implementation and is the proposed action. It consists of the following Wilderness Management Plan Actions, fully described in the WMP, that relate to either specific resources or resource programs administered by the Ely BLM District Office. These categories are briefly described in this Environmental Assessment with a reference to the detailed description contained within the WMP. Certain Wilderness Management Categories contain site-specific proposed actions. The remainder outline general standards for each non-wilderness resource program operating within wilderness. Although the Plan would not administer these resource programs, resource activity plans have been

evaluated to ensure conformity with laws, management goals, and objectives for these wilderness areas.

Alternatives B and C

Alternatives B and C are only included for any proposals that differ from both the Proposed Action and the No Action alternatives. The two Plan Actions that differ from the proposed action are regarding: 1) the Worthington Mountains Trailhead, and 2) proposed signs and kiosk around Worthington Mountains Wilderness.

No Action

The No Action alternative describes what would occur within each category if a wilderness management plan was not adopted. This alternative provides a baseline for comparison. In general however, the management plan identifies wilderness related constraints for non-wilderness resource programs that may operate within wilderness. Most of these constraints would still occur without adopting the plan.

Wilderness Management Plan Actions

Noxious and Non-Native Invasive Weed Management

Proposed Action

Current noxious and invasive weed infestations include, but may not be limited to, salt cedar (noxious, category C) and areas of cheatgrass. Management emphasis in wilderness would be placed on controlling small infestations with the potential to spread and displace native plants. Treatments for large infestations (defined by the BLM Ely District Weeds Coordinator) would be considered separately. Site-specific actions would treat known infestations of salt cedar. Treatment methods include hand pulling, herbicides, biological control, reseeding, and alternatives such as targeted grazing. The detailed description, including treatment methods, is found in the WMP starting on Page 14 (See Maps 2 - 3, Pages 17 - 18).

No Action

There is currently no existing management plan with which to treat large infestations of invasive grasses such as cheatgrass in wilderness. Noxious weeds would be treated on a case-by-case basis as per the District Noxious Weed Plan. We would consult the BLM's noxious weed classification system (which is described in the BLM Manual 9015 Integrated Pest Management) when setting priorities for weed control.

Range Management

Proposed Action

Grazing would continue under federal regulations to meet the Mojave – Southern Great Basin Resource Advisory Council Standards. Activities and the necessary facilities used to support livestock grazing would be permitted to continue in wilderness. Planning related to grazing operations would be guided by the Congressional Grazing Guidelines (House Report 105-405 Appendix A, 1990) and the BLM Manual 8560 (Management of Designated Wilderness Areas). Detailed description, including maps and tables, is found in the WMP starting on Page 19.

No Action

No difference from the proposed action except all requests for special provisions may be approved on a case-by-case basis.

Management of Small-Scale Surface Disturbances

Proposed Action

Small-scale disturbances fall into two categories with common characteristics: small-site disturbances including dispersed campsites and abandoned developments and mine sites; and linear disturbances created by motorized vehicle traffic that are largely denuded of vegetation. Linear disturbances will be decommissioned and rehabilitated and small-site disturbances will be rehabilitated. Approved methods for decommissioning former vehicle routes and rehabilitating small-site disturbances would include decompaction, scarifying/pitting, recontouring, vertical mulching, erosion control, desert varnish colorant, and vegetative restoration. The WMP provides a detailed description starting on Page 21 and depiction in Maps 2 - 3 (Pages 17 - 18).

No Action

Based on routine monitoring, reclamation activities would occur as necessary on a case-by-case basis according to methods and standard operating procedures as outlined in the Wilderness Disturbance Reclamation Environmental Assessment (NV-040-05-010).

Management and Designation of Trails and Trailheads

Proposed Action

The proposed action identifies specific Trail Standards and how designated and foot-worn hiking paths would be managed. The user created trail on the Worthington Mountains Wilderness would remain. This alterative would include a slightly expanded parking area at the Worthington

Mountains Trailhead. The WMP provides additional details starting on Page 24 and on Map 5 (Page 32).

Alternative B

This alternative would vary from the Proposed Action in regards to the Worthington Mountains Trailhead, which would be expanded to accommodate 3-4 vehicles, and three primitive campsites would be established. These primitive campsites would consist of a space for a vehicle to pull off, a fire ring and a tent pad. A post and rail fence would be erected to delineate the boundary of the parking area. No restroom or water facilities would be provided. See drawing on following page.

No Action

No trails or trailheads would be designated but 21 miles of existing former vehicle routes – eight miles in the Weepah Spring and 13 miles in the Worthington Mountains – would be treated as foot-worn hiking paths and rehabilitated according to existing BLM policy. Cattle, wild horse, or game trails would also be treated as foot-worn paths. These paths would not be displayed or described on BLM maps or brochures and would be monitored according to existing BLM policy.

Management of Vehicle Access Points and Designation of Staging Areas

Proposed Action

The proposed action outlines management actions designed to protect wilderness character near heavily used access points into wilderness now and in the future. Detailed description, including maps, is found in the WMP starting on Page 25.

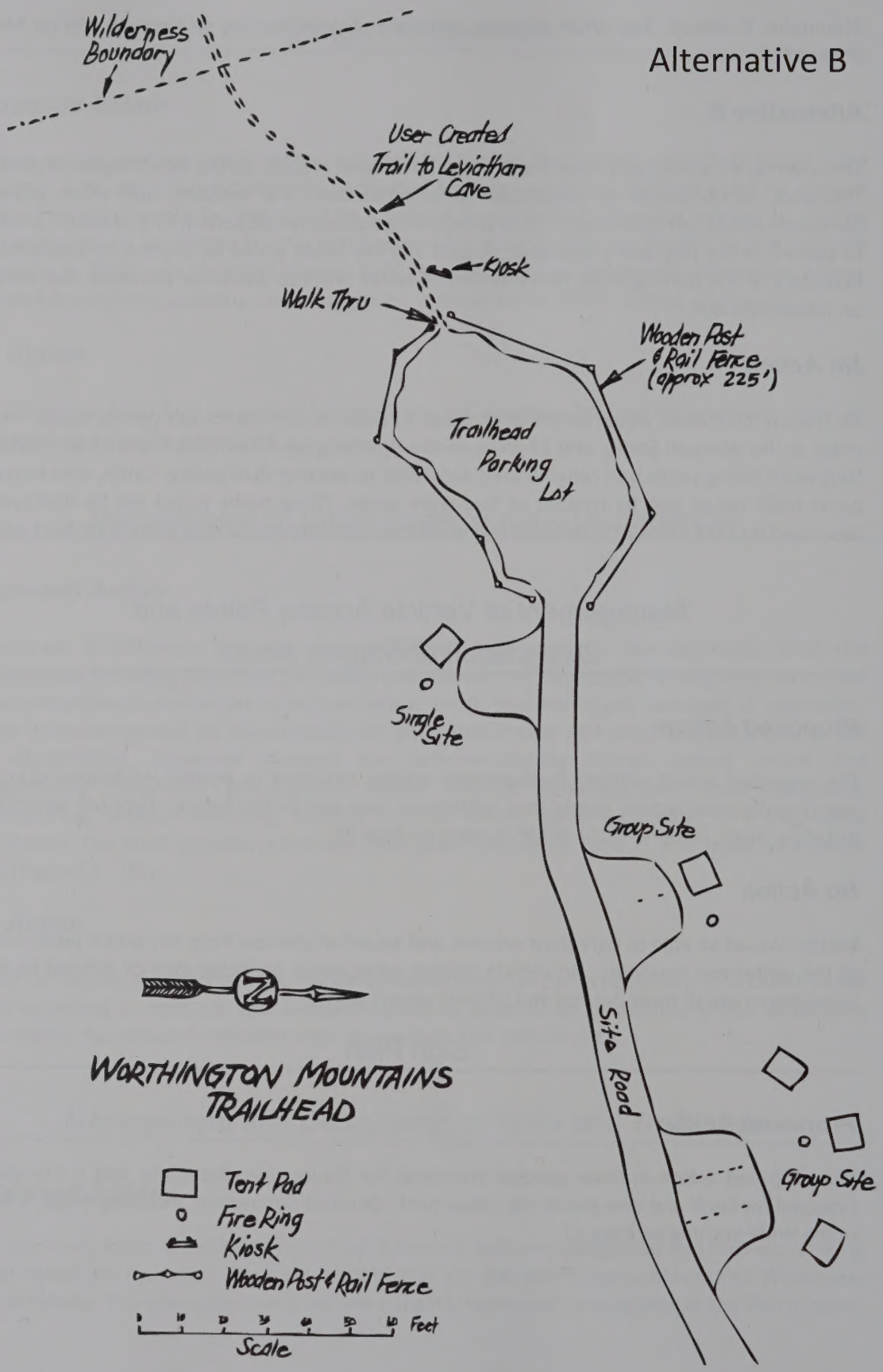
No Action

Visitors would be able to park their vehicles and access wilderness from any public point outside of the wilderness boundary. No vehicle staging areas would be designated or defined to direct recreational use to most desired and suitable access points.

Sign Plan

Proposed Action

The proposed action outlines general standards for future sign placement and a site-specific proposal for kiosk and directional sign placement. Detailed description, including maps, is found in the WMP starting on Page 27.


Alternative B
Wilderness Boundary
User Created Trail to Leviathan Cave
Kiosk
Walk Thru
Wooden Post & Rail Fence (approx 225')
Trailhead Parking Lot
Single Site
Group Site
Site Road
Group Site
N
WORTHINGTON MOUNTAINS TRAILHEAD
Tent Pad
Fire Ring
Kiosk
Wooden Post & Rail Fence
Feet
Scale

Alternative B

Under this alternative, a kiosk would not be installed at the Worthington Mountains Trailhead or at the entrance to the cave. Nor would the two directional signs be placed on the Worthington Mountains: one southwest of the wilderness to direct visitors to the eastern side of the wilderness for cave access, and one at the turn for the trailhead. The other signs described would be installed. See Map 5 on Page 32.

Alternative C

The kiosk would be installed at the entrance of Leviathan Cave instead of at the Worthington Mountains Trailhead.

No Action

In the No Action Alternative, no kiosks or directional signs would be installed.

Vegetation Restoration

Proposed Action

Vegetation restoration project proposals would be considered based on the standards outlined in the WMP starting on Page 29.

Mule Deer in Worthington Mountains Wilderness

No Action

No difference from the proposed action.

Wildlife Management

Proposed Action

Management of wildlife is the responsibility of the Nevada Department of Wildlife. Management of wildlife habitat is the responsibility of the BLM. Over the life of this plan it may be necessary to implement wildlife management activities to prevent degradation or enhance wilderness characteristics by promoting healthy, viable, and more naturally distributed wildlife populations and/or their habitats. Detailed standards are found in the WMP starting on Page 33. Categories related to wildlife management are as follows:

- Wildlife Water Developments
- Wildlife Relocation Activities
- Wildlife Damage Management

No Action

A comprehensive WMP would not guide wildlife related management categories. Activities within these wilderness areas would be conducted in conformance with the current (2003) and subsequent BLM-NDOW Memorandum of Understanding (MOU) and guided by Lincoln County Conservation, Recreation and Development Act (LCCRDA) (2004), as well as BLM-APHIS MOU (1995) and BLM Manual 8560 (Management of Designated Wilderness).

Wild Horse Management

Proposed Action

The BLM Ely District Office Wild Horse Program's activity plans guide the management of wild horses and burros. No formal herd management areas exist in these two wilderness areas and all horses are to be removed. Detailed standards are found in the WMP starting on Page 35.

No Action

No difference from the proposed action.

Wild Horses near Worthington Mountains Wilderness

Fire Management

Proposed Action

Fire management objectives in these wilderness areas would be structured in accordance with the 2008 Ely District Fire Management Plan. If it is updated over the life of this plan, the new policies would be followed. Following fire, Emergency Stabilization and Rehabilitation activities may be undertaken in accordance with current Department of Interior policy (620 DM 3 Wildland Fire Management Burned Area Emergency Stabilization and Rehabilitation) and Bureau of Land Management policy (H-1742-1 Burned Areas Emergency Stabilization and Rehabilitation Handbook). Detailed standards, including maps are found in the WMP starting on Page 35. Categories related to fire management are as follows:

- Fire Suppression Guidelines
- Suppression Activity Damage
- Emergency Stabilization and Rehabilitation Activities

No Action

Fire management activities would occur without the guidance of a comprehensive WMP.

Protection of Archeological Resources and Historic Properties

Proposed Action

Protection of cultural resources is guided by federal laws, the Cultural Resource Inventory General Guidelines (as currently published by the Nevada State Office), and the current State Protocol Agreement between the BLM and the Nevada State Historic Preservation Office. Protection involves both monitoring and inventory. The proposed management plan will not alter the management of archeological resources and historic properties. Therefore, there will be no adverse effect on archeological resources and historic properties which will remain protected under federal laws. Specific standards for the protection of cultural resources are found in the WMP starting on Page 39.

No Action

With or without adoption of this plan, management of archeological resources and historic properties would not change. Therefore, the No Action is the same as the Proposed Action. All laws regarding the protection of these resources, such as the Archaeological Resources Protection Act of 1979 and the National Historic Preservation Act of 1966, would apply.

General Recreation Activity

Proposed Action

General recreation activities include hiking, backpacking, hunting, trapping, shed antler and pine nut collection, horseback riding, caving and climbing. Detailed standards for current and potential future management related to these activities are found in the WMP starting on Page 40. Categories related to general recreation management are as follows:

- Camping
- Managing for Solitude

No Action

No specific management actions would be taken regarding general recreational activities allowed in wilderness. Campsites would not be moved or rehabilitated, if found to be proliferating within a distance of one another. Regarding the Worthington Mountains Trailhead, no alterations would occur to the existing site. Visitors would continue to dispersed camp along the road.

Management of Recreational Caving and Climbing

Proposed Action

Recreational caving and climbing would continue as long as there are no irreversible impacts to cave resources and wilderness. Details related to these activities in wilderness can be found in the WMP on Page 43.

No Action

New register boxes would not be replaced in caves. All other policies and laws would be followed without the guidance of this WMP.

Management of Environmental Education and Interpretation

Proposed Action

On and off site general interpretive information regarding natural and cultural resources and recreation opportunities in wilderness would be located on informational signs outside of wilderness, in brochures, on BLM recreation maps, and at the BLM Ely District Office website. Detailed standards for general interpretive information regarding natural and cultural resources and recreation opportunities in wilderness are found in the WMP starting on Page 45.

No Action

The BLM developed a wilderness public education plan for programs related to wilderness. This plan would be implemented without the guidance of a comprehensive WMP.

Commercial Use Restrictions

Proposed Action

Section 4(c) of the Wilderness Act (1964) prohibits commercial enterprises within wilderness, with the exception of those commercial services listed in Section 4(d) of the Wilderness Act. Details on commercial uses allowed in wilderness, including guide services, are found in the WMP starting on Page 46.

No Action

There would be no difference from the proposed action.

Law Enforcement

Proposed Action

Enforcement of wilderness laws, federal regulations, and resource protection services would be performed by uniformed BLM Law Enforcement Rangers on foot or horseback and along the perimeter using motorized vehicles. Detailed standards regarding law enforcement in wilderness are found in the WMP starting on Page 46.

No Action

Current laws, policies, and guidelines would be followed without the guidance of a comprehensive WMP.

Research

Proposed Action

Research proposals investigating indigenous plant communities, wildlife, cultural resources, and the human dimensions of wilderness would be considered. Detailed standards regarding appropriated research proposals and subsequent approval within wilderness are found in the WMP starting on Page 47.

No Action

Scientific research proposals would be considered that adhere to current laws, policies, and guidelines, but would be implemented without the guidance of a comprehensive WMP.

Water Rights

Proposed Action

The BLM would adhere to Nevada state water law and could seek to acquire water rights to sustain riparian habitat, provide water to wildlife, or support recreation. For details see the WMP starting on Page 47.

No Action

No difference from the proposed action.

Structures, Installations and Other Human Effects or Disturbances

Proposed Action

BLM staff and volunteers monitoring wilderness would be given instructions on the identification of human effects that would be considered unattended personal property or refuse. Unattended personal property not associated with an active camp would be removed by BLM personnel, and temporarily held at the appropriate BLM District or Field Office. Detailed standards regarding this category are found in the WMP starting on Page 47. Categories related to Structures, Installations, and Other Human Effects are as follows:

- Climate, Weather, and Water Monitoring Data Collection Devices

No Action

Current laws, policies, and guidelines would be followed without the guidance of a comprehensive wilderness management plan.

Military Operations

Proposed Action

Military training exercises occurring on the ground would not be located within the two wilderness areas. Directions for handling military operations would distinguish between non-emergency and emergency situations. Non-emergency incidents might include such activities as the release of low-level flares, the recovery of aircraft parts, or the salvage of non-operational ordnance. Emergency situations may include, but are not limited to, the retrieval of downed aircraft, the rescue of pilots, or the recovery of live ordnance. Detailed standards for potential military operations are found in the WMP starting on Page 48.

No Action

Current laws, policies, and guidelines would be followed without the guidance of a comprehensive WMP.

Military Flight over Weepah Spring Wilderness

Alternatives Considered but Eliminated from Analysis

The BLM considered a trail in Weepah Spring Wilderness, which would have accessed the ponderosa pine stands. It was eliminated from analysis due to comments against its establishment and impacts which would occur to wilderness character. If, in the future, visitor use were to increase to warrant the trail, it would require site-specific NEPA, and cultural clearances.

Affected Environment and Environmental Consequences

Introduction

The scope of this Environmental Assessment (EA) analysis comprises the Weepah Spring and Worthington Mountains Wilderness areas located in Lincoln and Nye Counties in the Great Basin ecoregion. The BLM's NEPA Handbook (H-1790-1) requires that all EAs address specific

resources or concerns of the human environment. The list of elements contained in the handbook has been expanded by BLM Instruction Memoranda and Executive Orders. These items, along with the rationale for including or not including them in this analysis are listed in Table 2. Resources not adversely affected will not be considered further in this document.

Resources/Concerns Considered for Analysis

The following items have been evaluated for the potential for impacts to occur, either directly, indirectly or cumulatively, due to implementation of the proposed action. Consideration of some of these items is to ensure compliance with laws, statutes, or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general, and to the Ely BLM in particular. Following Table 1, each issue that was analyzed is organized into two parts: Affected Environment and Environmental Consequences.

Table 1. Resources/concerns considered for analysis.

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Air Quality	N	Proposed Action would not increase air pollutant concentrations.
Cultural Resources	N	All ground disturbing activities will be subject to National Historic Preservation Act (1966) Section 106 review and SHPO consultation as per BLM Nevada's implementation of the protocol for cultural resources (36CFR800). All proposed activities and disturbances must avoid cultural resources. Prior to proposed ground disturbing activities, all project areas will be inventoried to identify possible cultural resources. A cultural resources inventory needs assessment would be completed and recommendations would be followed.
Environmental Justice	N	No minority or low-income groups would be affected by disproportionately high and adverse health or environmental effects.
Fire Management	Y	Fire management actions may affect wilderness character.
Fish and Wildlife	Y	No fish present. Proposed action, including development of trails, trailheads and staging areas, may impact individual animals.
Floodplains	N	Resource not present.
Forest and Rangeland Health	N	The Mojave/Southern Great Basin Resource Advisory Council sets the standards and guidelines for this resource. The proposed action does not impact this guidance. The range and wild horse programs are responsible for adhering to the Council's standards and guidelines for rangeland health.

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Grazing Uses	Y	Congressional Grazing Guidelines (excerpt from House Report 101-405 Appendix A, 1990) dictate allowable uses and maintenance of range developments in wilderness. The BLM's Range Management Program guides AUMs and season of use for allotments.
Invasive Non-native Plant Species (includes noxious weeds)	Y	Proposed action may increase the potential to spread noxious and invasive weeds. Mitigation measures may reduce the potential to spread weeds.
Land Uses	N	Designation of wilderness, not this WMP, affects land uses.
Migratory Birds	Y	Proposed action may impact individual birds. Following the BLM interim management guidance for the Migratory Bird Treaty Act would prevent or diminish population-level impacts.
Mineral Resources	N	No mine claims existed prior to wilderness designation
Native American Religious Concerns	N	No concerns were raised at this time.
Paleontological Resources	N	No known sites of high scientific value are known. The proposed action does not conflict with the BLM's Ely District Resource Management Plan (2008).
Recreation Uses	Y	Staging areas, placement of signs/kiosks, establishment of the trailhead and potential for additional regulations may affect recreational use of these areas.
Special Designations other than Designated Wilderness	N	White River Narrows Archaeological District overlaps a portion of Weepah Spring Wilderness.
Special Status Animal Species (Federally protected, Nevada State protected, BLM Sensitive rated)	Y	Individual State protected or Nevada BLM listed sensitive species may be impacted by the proposed action.
Special Status Plant Species (Federally protected, Nevada State protected, BLM sensitive)	Y	Proposed action may impact undiscovered individual plants.
Vegetation/Soils/Watershed	Y	Constructing staging areas, trailhead and route decommissioning would affect small areas of vegetation. Soils would not be destroyed or removed and watershed function would not be affected.
Vegetative Resources (Forest or Seed Products)	N	The Wilderness Act does not allow forest or seed products to be sold. It is not feasible to track and determine individual gathering impacts.
Visual Resource Management	N	The proposed action is consistent with Visual Resource Management Class I objectives for wilderness. The proposed action (except route decommissioning) would not be visible from any road and the level of change to the landscape is low.

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Wastes, Hazardous or Solid	N	No wastes are anticipated
Water Quality, Drinking/Ground	N	Does not affect, herbicides used for salt cedar eradication are approved for use in aquatic areas.
Water Resources (Water Rights)	N	BLM is subject to State of Nevada water rights laws.
Wetlands/Riparian Zones	N	Wetlands do not exist. Springs have been modified for livestock use and this plan does not have the authority to change that. Herbicides proposed to eradicate salt cedar that exists at several springs are approved for aquatic use. Implementing the standard operating procedures stated in the Record of Decision for the Vegetation Treatments Using Herbicides on BLM lands in 17 Western States Programmatic EIS (2007) will prevent impacts.
Wild Horses	N	Herd Areas seek an Appropriate Management Level of zero.
Wilderness	Y	Proposed actions seek to maintain, restore, or enhance wilderness character.

Mandatory Items Analyzed

Fire Management

Affected Environment

The BLM's objective regarding fire management is to manage wildland and prescribed fires as one of the tools in the treatment of vegetation communities and watersheds to achieve the desired range of condition for resource programs (BLM 2008).

The fire management units (FMUs) that overlap these wilderness areas are displayed in Map 7 (Page 79) and described in Table 2 (Page 77). The primary goals of these FMUs are to improve watershed conditions, manage habitat for the benefit of species, and minimize the spread and density of non-native invasive plants. The fire management type displayed in Table 2 is a designation that defines an FMU's primary resource management objective and fire protection values.

The historical fire regime of these areas has been highly variable. Within the Great Basin fire is an integral part of the ecological process of many plant communities. The main vegetation types (sagebrush and pinyon and juniper) within the wilderness areas developed under a regime of intermittent to long term fire and are adapted to the effects of fire in some way. Each vegetation type is characterized by a fire frequency, which varies in fire intensity by state. Fires were frequent in lower elevation sagebrush communities and spread to the adjacent pinyon-

juniper woodland while infrequent relatively small-scale high severity fires characterized the pinyon-juniper woodland. Frequent surface fires are common in the Ponderosa pine communities. Fire frequency within the sagebrush communities ranges from 90 to 140 years, and with pinyon and juniper woodlands ranging from 100 to 500 years (www.landfire.gov). Over the last 30 years the fire history within the Worthington Wilderness has been limited to a few single tree fires. Within the Weepah Spring Wilderness a few single tree fires have also occurred along with a 3,248 acre fire in 2006, of which 2,936 acres were aerially reseeded in 2007. No fires have been recorded within the ponderosa stands. This lack of apparent fire history has led to an altered Fire Regime Condition Class (FRCC) for the wilderness areas.

Fire Regime Condition Class is an interagency, standardized tool for determining the degree of departure from reference condition vegetation, fuels and disturbance regimes (http://www.frcc.gov/). Assessing FRCC can help guide management objectives and set priorities for treatments. The classification is based on a relative measure describing the degree of departure from the historical natural fire regime. This departure is described as changes to one or more of the following ecological components: vegetation characteristics (species composition, structural stages, stand age, canopy closure and mosaic pattern); fuel composition; fire frequency, severity and pattern; and other associated disturbances (e.g. insects and disease mortality, grazing and drought).

The three classes are based on low (0-33% departure; FRCC1), moderate (34-66% departure; FRCC2) and high (67-100% departure; FRCC3) departure from central tendency of the natural (historical) regime. Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside the range of variability. The FRCC rating is accompanied by a series of indicators of the potential risks that may result from the changes to the associated ecological components when disturbance is applied. Reference descriptions for a typical FRCC1 community have been developed for all major vegetation types in the Great Basin (LANDFIRE 2010). Reference conditions are compared to actual conditions for purposes of determining current FRCC classes.

The majority of each wilderness area is characterized by FRCC 2. This indicates that fire regimes have been moderately altered from their historical range by either increased or decreased fire frequency. A moderate risk of losing key ecosystem components has been identified in these lands.

Table 2. Fire Management Units (FMUs) within the Wilderness Areas.

Wilderness Area	FMU Name	FMU Type*	FMU Acres	FMU Acres by Percent
Weepah Spring	Irish/Timber/Worthington Mountains	Vegetation	24,478	47.7%
	Seaman Range-Murphy Gap	Vegetation	24,216	47.2%
	Southern Benches	Vegetation	2,611	5.1%
Worthington Mountains	Irish/Timber/Worthington Mountains	Vegetation	13,158	43.0%
	Southern Benches	Vegetation	17,436	47.0%

*A FMU Type is assigned to each FMU to define its primary resource management objective and fire protection values.

Environmental Consequences

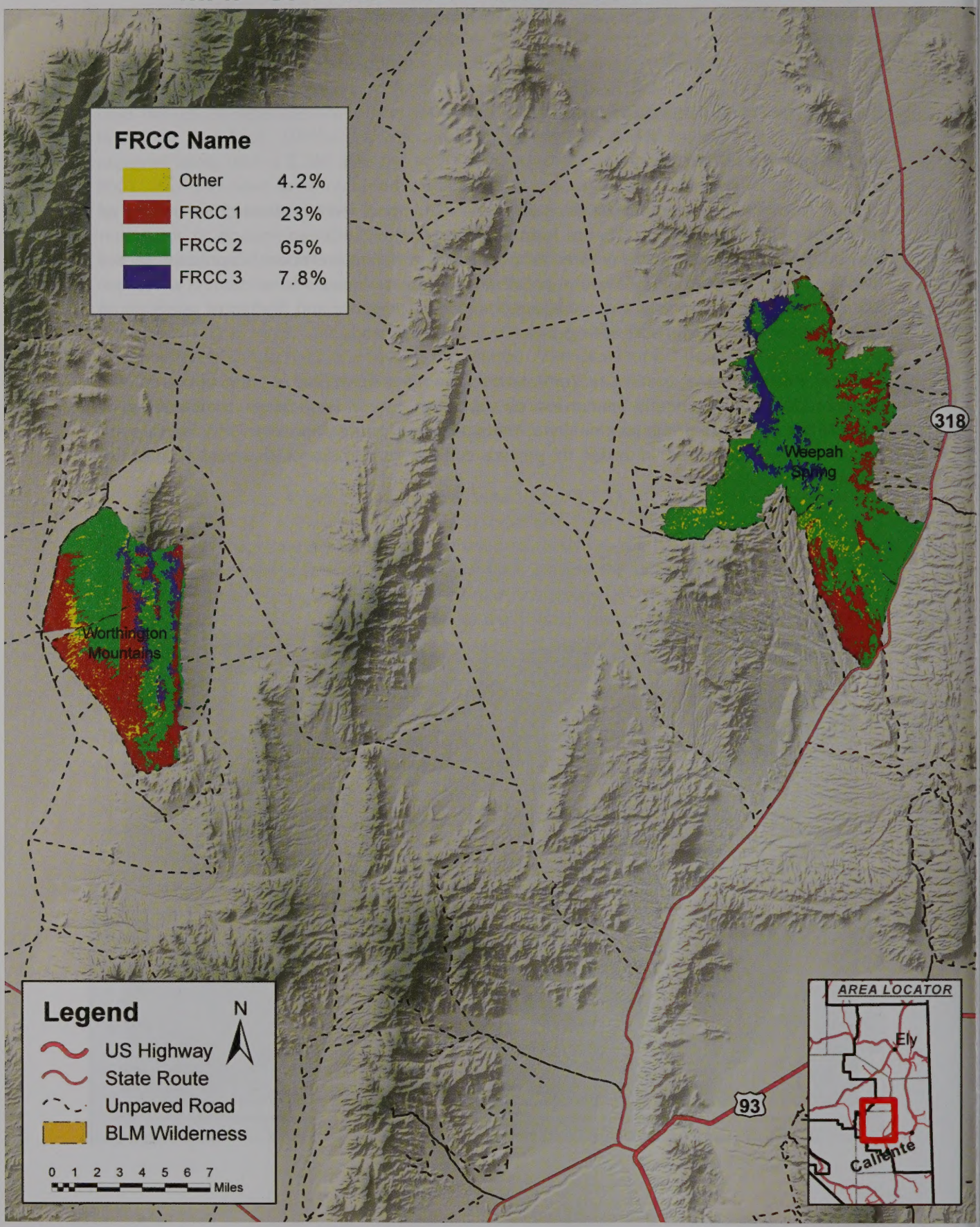
Impacts of Proposed Action

Impacts from fire management activities include visual impact from retardant, but the use of retardant reduces surface disturbance from line construction. Localized impacts to vegetation may occur if motorized access is granted for a specific fire. Minimum Impact Suppression Tactics (MIST) guidelines would be followed in an effort to minimize impacts to wilderness character. Actions deemed necessary by the Incident Commander for public and firefighter safety could cause impacts to resources such as vegetation, wildlife, and weeds.

Post-fire Emergency Stabilization and/or Rehabilitation (ES & R) seeding or planting treatments, if successful, would benefit wilderness by restoring natural vegetation communities or establishing a less fire-prone community if non-native species are approved. Fire management planning may be altered in order to protect cultural resources, which could hinder fire management objectives.

Area burned in 2006 Oreana Fire, Weepah Spring Wilderness

MAP 8: FIRE REGIME CONDITION CLASS



Placement of the kiosks, with information of the role of fire in ponderosa stands on Weepah Spring Wilderness, will further fire education efforts.

Pinyon pine and juniper would be removed from the understory of ponderosa pine stands on both wilderness areas. This would prevent the likelihood of severe, crown fires in the ponderosa stands which could result in high mortality for these relict stands of ponderosa.

Impacts of Alternative B / Alternative C

No differences over the proposed action.

Impacts of No Action

No hand thinning would occur within the ponderosa pine stands on Weepah Spring.

Fish and Wildlife

Affected Environment

No fish species exist in the management area. Wildlife species characteristic of the Great Basin are supported by the diverse habitat types found in these areas. Key Habitats are associated with each ecological system described in the Vegetation section (See Page 98). Key Habitats can be used to infer likely occurrences of wildlife species assemblages when survey data is lacking, as is the case for many species in these wilderness areas. Predominant key habitats include Great Basin pinyon-juniper woodland, mixed salt desert scrub, mixed sagebrush shrubland, and big sagebrush shrubland (Nevada Wildlife Action Plan, 2006).

Hunting and trapping are permitted in wilderness subject to applicable State and Federal laws and regulations. Non-commercial shed antler collection also occurs. Both Weepah Spring and Worthington Mountains are located within hunt unit 133. Neither area currently contains any wildlife water developments.

Small game and furbearers in the project area include black-tailed jackrabbit (*lepus californicus*), grey fox (*Urocyon cinereoargenteus*), kit fox *(Vulpes macrotis)*, bobcat (*Lynx rufus baileyi*), and coyote (*Canis latrans*). Nongame species of mammals, reptiles, and birds are diverse and provide the prey base for the predators of the area.

Big Game

Big game species that do or may occupy these areas consist of desert bighorn sheep (*Ovis canadensis nelsonii*), mule deer (*Odocoileus hemionus*), and pronghorn antelope (*Antelocapra americana*).

These two wilderness areas include unoccupied Desert Bighorn Sheep habitat. They prefer rough, rocky, and steep terrain; require freestanding water in the summer months or during drought; and mainly eat grasses, shrubs, and forbs (BLM 2007). Weepah Spring Mountains encompass 47,370 acres of potential habitat. Worthington Mountains contains 14,688 acres of potential habitat. Desert Bighorn Sheep are a BLM Sensitive Species in the Nevada.

Mule deer generally browse on forbs, grasses, and shrubs depending on the time of year. For instance, forbs and grasses are most important in spring and summer while shrubs are most utilized during winter and the dry summer months. Weepah Spring encompasses 13,690 acres of winter range and 32,152 acres of year long range. Worthington Mountains contains 7,542 acres of winter range and 14,814 acres of year long range.

Pronghorn antelope is a species of ungulate native to interior western North America. They inhabit grasslands, brushlands, and sagebrush rangelands of open deserts and plains. They primarily feed on forbs, in addition to shrubs, grasses, and plants less palatable to other animals, such as cacti. When the moisture content of their forage is sufficient, they are able to go days without drinking surface water. Year round habitat includes 1,357 acres within Weepah Spring; and 16,519 acres within Worthington Mountains.

Upland Game

Upland game species primarily consist of chukar partridge (*Alectoris chukar*), Gambel's Quail (*Callipepla gambelii*), and greater sage-grouse (*Centrocercus urophasianus*).

Chukar Partridge is a species from the pheasant family was originally introduced from Pakistan as an upland game bird. It can be found on rocky hillsides or open and flat desert with sparse grassy vegetation in Weepah Spring Wilderness. They primarily eat seeds but will forage on some insects (Christensen 1996).

Gambel's quail is native to the Mojave Desert and the southern portion of the Great Basin. Their primary diet consists of leaves, grasses, and seeds. Insects may be utilized during nesting season. Water is a limiting factor and population abundance fluctuates during drought years, however, small game wildlife water developments help stabilize population numbers (Cornell Lab of Ornithology, 2009).

Greater sage-grouse is the largest grouse species in North America. They occupy sagebrush habitat of the plains, foothills, and mountain valleys of the west. In winter they feed almost exclusively on various sagebrush species, but will forage on other plants, grasses, and insects (National Audubon Society, 2009).

Migratory Birds

Many migratory and resident bird species likely occur in these areas. The following data reflect survey blocks and/or incidental sightings of bird species in or near the project area from the Atlas of the Breeding Birds of Nevada (Floyd et al. 2007) and NDOW Diversity Data. These data represent birds that were confirmed, probably, or possibly breeding within or near the project area. These data are not comprehensive, and additional species not listed here may be present.

No survey blocks or incidental sightings occur within the project area. Survey blocks with similar vegetation as this area contained the following bird species:

Turkey Vulture (*Cathartes aura*)
Horned Lark (*Eremophila alpestris*)
Northern Mockingbird (*Mimus polyglottos*)
Sage Thrasher (*Oreoscoptes montanus*)
Wilson's Warbler (*Wilsonia pusilla*)
Black-headed Grosbeak (*Pheucticus melanocephalus*)
Black-throated Sparrow (*Amphispiza bilineata*)
Sage Sparrow (*Amphispiza belli*)
White-crowned Sparrow (*Zonotrichia leucophrys*)
Western Meadowlark (*Sturnella neglecta)*
Bullock's Oriole (*Icterus bullockii*)
House Finch (*Carpodacus mexicanus*)
Mourning Dove (*Zenaida maacroura*)
Common Raven (*Corvus corax*)
Brewer's Sparrow (*Spizella breweri*)
Blue-gray Gnatcatcher (*Polioptila caerulea*)
Barn swallow (*Hirundo rustica*),
Red-tailed hawk (*Buteo jamaicensis*)
Broad-tailed hummingbird (*Selasphorus platycercus*)
Gray flycatcher (*Empidonax wrightii*)
Ash-throated flycatcher (*Myiarchus cinerascens*)
Violet-green swallow (*Tachycineta thalassina*)
Bushtit (*Psaltriparus minimus*)
Rock wren (*Salpinctes obsoletus*)
Canyon wren (*Catherpes mexicanus*),
Bewick's wren (*Thryomanes bewickii*),
Plumbeous vireo (*Vireo plumbeus*),
Orange-crowned warbler (*Vermivora celata*)
Black-throated gray warbler (*Dendroica nigrescens*)
MacGillivray's warbler (*Oporornis tolmiei*)
Lazuli bunting (*Passerina amoena*)
Spotted towhee (*Pipilo maculatus*)
Brown-headed cowbird (*Molothrus ater*)
Grace's warbler (*Dendroica graciae*)
Greater roadrunner (*Geococcyx californianus*)
Common black-hawk (*Buteogallus anthracinus*)
American kestrel (*Falco sparverius*)

Environmental Consequences

Impacts of Proposed Action

The biggest challenges to wildlife in the project area may be invasive grasses and climate change. A consensus between 19 climatic modeling groups from around the world predict that drying of arid lands and temperatures in the southwestern United States will continue to increase (Seager et al. 2007). As a consequence, wildlife and the habitat they depend upon could be impacted through decreased plant species diversity, increased fire frequency, and lack of water resources. At higher elevations or near springs, wildlife densities and competition may increase.

Authorized livestock activities and ground-disturbing methods relating to fire management activities, ES & R, route decommissioning, installation of signs and staging areas, could have localized, short term impacts on behavior and movement of individual animals. According to the Record of Decision for the Vegetation Treatments Using Herbicides on BLM lands in 17 Western States Programmatic EIS (2007), the herbicides that would be used for salt cedar treatments "are not likely to impact" when applied at typical application rates.

Worthington Mountains Wilderness

Following Best Management Practices in accordance with the Ely District Resource Management Plan (2008) would minimize impacts to special status migratory or resident birds stemming from ground disturbing activities such as route decommissioning, vegetation restoration, fire management, or weeds treatments.

Minimization measures have been incorporated into the Wilderness Management Plan to address migratory birds. While there may be localized effects to individuals, this action is not expected to adversely affect populations of migratory birds.

If horse gathers should be needed, short-term localized impacts may occur. However, in the long term wildlife would benefit from fewer impacts to springs and less competition for forage from wild horses.

In the long-term, route restoration following decommissioning may help restore formerly disturbed vegetation communities associated with former vehicle routes, thus providing a less vegetative fragmented landscape for wildlife.

Recreational use may create temporary localized impacts to wildlife through displacement of individual animals; however, the recreational experience may also be improved through increased opportunities to observe wildlife if restoration projects are successful.

Impacts of Alternative B / Alternative C

Alternatives B and C would not have a different effect on wildlife than the proposed action.

Impacts of No Action

In general, the impacts would be the same as the proposed action because fire management, ES & R, and wild horse management are guided by their own resource programs and may still occur in wilderness. Route restoration following decommissioning would still occur. Designation of staging areas would not occur; therefore no impacts from this action would take place.

Grazing Uses

Affected Environment

Livestock grazing allotments in the Weepah Spring and Worthington Mountains Wilderness areas are managed entirely by the Ely District Office. All livestock grazing allotments within the wilderness are classified as perennial allotments by the Ely District Office. Term permits authorize grazing use based on the vegetation within the Great Basin ecological system. Grazing preference (number of Animal Unit Months) is attached to base property - land or water - owned or controlled by a permittee or lessee. The majority of base property in the planning area is water based. Grazing allotments are currently used by both cattle and sheep operators.

Allotments in the wilderness areas are displayed on Maps 2 and 3 (Pages 17-18) and are listed in Table 3 (below). Animal Unit Months not included in this table that may be associated with the allotments include historic suspended, as well as mandatory and voluntary non-use AUMs, for conservation and protection purposes. Over recent years, particularly since 1996, actual use has been reduced due to the impacts of drought. Livestock numbers may vary based on rotational grazing systems and the terms and conditions of the individual term grazing permits.

Table 3. Grazing Allotments within Wilderness.

Wilderness Area	Allotment	Total Acres within Wilderness	Total Acres of Allotment	Season of Use	AUM*
Weepah Spring	Coal Valley Lake	26,506	115,181	Cattle: 9/1 to 5/15 Sheep: 11/1 to 4/10	4,821
	Needles	51	85,502	Cattle: 10/1 to 2/28 Sheep: 10/1 to 4/15	2,679
	Sunnyside	1	237,402	6/1 to 10/31	5,402
	Timber Mountain	20,269	43,777	Cattle and Sheep: 11/1 to 4/10	2,373
	West Timber Mountain	4,475	12,571	12/1 to 4/15	735

Wilderness Area	Allotment	Total Acres within Wilderness	Total Acres of Allotment	Season of Use	AUM*
Worthington Mountains	McCutcheon Springs	3,209	17,857	3/1 to 2/28	446
	Sand Springs	6,596	238,401	3/1 to 2/28	7,005
	Shadow Wells	8,872	16,738	11/1 to 4/30	577
	Worthington Mountain	11,917	77,902	Cattle: 1/13 to 5/31 Sheep: 12/15 to 4/10	5,641

*Animal Unit Months listed are totals for the entire allotment (wilderness and non-wilderness).

Few range developments currently exist for the maintenance and support of livestock grazing. Existing range developments identified through administrative records and field reconnaissance within the wilderness areas are listed in Table 4 and depicted in Maps 2 and 3 (Pages 17 -18).

The grazing permittee is responsible for maintenance of all livestock grazing facilities in the wilderness areas by cooperative agreements. Although access by motor vehicles may occur on a case-by-case basis after contacting the BLM Ely District Office, no scheduled access by motor vehicles for facility maintenance or livestock operations has been established.

Table 4. Existing Range Developments within Wilderness.

Wilderness Area	Fences/ # Miles	Pipelines/ # Miles	Reservoirs	Developed Springs
Weepah Spring	1/0.11	1/0.03	0	1
Worthington Mountains	1/2.37	2/4.02	1	0

Environmental Consequences

Impacts of Proposed Action

The Proposed Action for management of livestock grazing provides specific guidance for the maintenance of facilities and activities in support of a livestock grazing program. Regular maintenance of structures in support of livestock grazing would be distinguished from emergency operations. This may enhance the ability of the BLM to manage livestock grazing activities within wilderness and eliminate time delays in approval for access to maintain range developments and respond to emergency situations.

Grazing uses may benefit from fire suppression by preventing structures and installations from being consumed as a result of wildland fire. ES & R efforts and treatments to stabilize soils and restore vegetation could result in the temporary closure of portions of allotments. Better range

conditions would provide long-term benefits for grazing uses. According to the Record of Decision for the Vegetation Treatments Using Herbicides on BLM lands in 17 Western States Programmatic EIS (2007), herbicides that would be used for salt cedar treatments "are not likely to impact" livestock when applied at typical application rates.

Impacts of Alternative B / Alternative C

The impacts to grazing under either alternative would be the same as the proposed action.

Impacts of No Action

In general, impacts to and from other resources would not differ from the proposed action given that fire management, and ES & R activities are guided by their own resource programs and may still occur in wilderness. Limited impact could occur to wildlife as a result of treatment of the salt cedar on the cherrystem on the Worthington Mountains Wilderness.

Invasive Non-native Plant Species (includes noxious weeds)

Affected Environment

Noxious and non-native invasive weeds are frequent obstacles to managing wilderness character in the Central Basin and Range ecoregions. Non-native invasive species are defined by Executive Order 13112 as "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." Alien refers to a species that did not evolve in the environment in which it is found. Noxious weeds are any plant designated by a Federal, State, or County government as injurious to public health, agriculture, recreation, wildlife, or property (Sheley, Petroff, and Borman 1999).

Weed management is further challenged by fires that occurred within Weepah Spring Wilderness area in 2006. Cheatgrass (Bromus tectorum) tend to return in higher densities after fire leading to a feedback loop that maintains an unnatural fire regime and a less diverse vegetation community.

Salt cedar (*Tamarix spp.*) is classified in Nevada as a Category C noxious weed. There is one documented infestation in Worthington Mountains Wilderness (See Map 3, Page 18). Salt cedar is fire adapted, each plant can produce up to 500,000 wind-blown seeds annually, the leaves and flowers contain few nutrients for wildlife, and it tends to grow in riparian areas or where water is near the surface. Native aquatic systems are disrupted because of long tap roots that are capable of intercepting deep water tables and increased salinity of the surrounding soil after leaves drop. In turn, native species such as willow and mesquite are displaced leaving poor habitat and forage for wildlife. After burning or cutting, salt cedar can easily resprout making it difficult to eliminate (Muzika and Swearingen 2006).

Cheatgrass (*Bromus tectorum*) is currently only found in a few areas at low density throughout the two areas. This invasive annual grass displaces native perennial shrub, grass, and forb

species because of its ability to germinate quicker and earlier than native species, thus outcompeting natives for water and nutrients. Cheatgrass is also adapted to recurring fires that are perpetuated in part by the fine dead fuels that it leaves behind. In general, native plants have a difficult time thriving in these altered fire regimes.

A risk assessment for noxious weeds was conducted for the two wilderness areas (Appendix F). For this project, the risk factor is moderate. A risk rating of moderate requires the development of preventative management measures for the proposed project to reduce the risk of introduction or spread of noxious weeds into the area.

Environmental Consequences

Impacts of Proposed Action

In general, the management actions outlined in this plan apply best management practices and standard operating procedures that are focused on preventing the spread of weeds by vectors such as vehicles or equipment. The ability to detect noxious and invasive weeds would be enhanced over the No Action alternative through a greater emphasis on regular wilderness monitoring. Weed treatment procedures within these areas would be clearly defined and compatible with limiting or eliminating noxious and invasive weeds.

Invasive annual grass treatment procedures would be clearly defined site-specific NEPA for any future proposed action. This may enhance the ability of the BLM to control, contain, or eliminate certain invasive grasses within these areas and prevent or diminish an annual grass fire cycle which could further harm the native vegetation in the area. If post-fire ES & R activities should fail, then noxious and invasive weeds may increase in burned areas. However, if efforts are successful, then post-fire weed establishment or expansion would be minimized or stopped.

The continued presence and potential increase of recreational activities, including camping, hiking, and horse packing, may contribute to the spread of noxious and invasive species as a result of trampling of native species and the possibility of spreading noxious and invasive seeds into wilderness. Pack stock animals used for recreational horseback riding and routine livestock maintenance would be fed with packed-in, certified weed-free feed, decreasing their contribution to weed infestation problems and the impact of incidental recreational horse browsing on vegetation. Increased pedestrian, equestrian, vehicle traffic to staging areas and installation of signs has the potential to introduce invasive non-native plants, including noxious weeds.

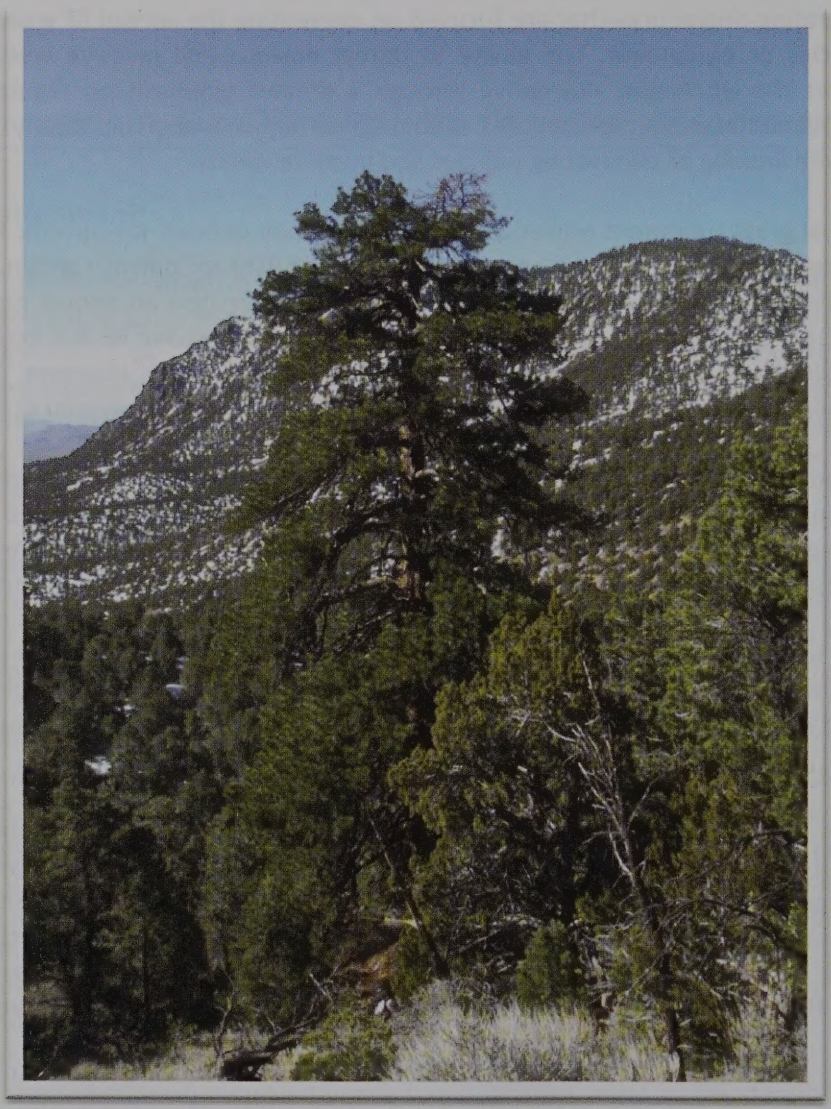
Rehabilitation of small-scale disturbances would include methods such as decompaction, scarifying, and pitting soil that may stimulate the growth of noxious and invasive weeds. Future approved vegetation restoration projects may cause small, local disturbances that could increase local noxious and invasive weed populations. Allowable motorized access could occur through ES & R, wildlife management, or fire-management activities; such access may cause disturbances that encourage weed establishment, or may introduce additional weeds into the wilderness.

Livestock grazing management seeks to achieve or maintain desired rangeland health and healthy rangelands are less vulnerable to weed infestations. However, livestock can carry seeds

and plant parts of noxious and invasive weed species. Monitoring of high risk areas should minimize possible infestations. Cattle would generally be excluded from areas of new revegetation until deemed successful to prevent livestock from trampling and grazing young plants (BLM 2008).

Impacts of Site-Specific Control of Salt Cedar

Herbicides could come into contact with and impact non-target plants through drift, runoff, wind transport, or accidental spills and direct spraying. Potential impacts include mortality, reduced productivity, and abnormal growth. However, implementing the associated standard operating procedures outlined in the Record of Decision for the Vegetation Treatments Using Herbicides on BLM lands in 17 Western States Programmatic EIS (2007) would minimize or eliminate these risks.



Ponderosa Pine in Weepah Spring Wilderness

Impacts of Alternative B

The impacts associated with the alternative to invasive, non-native plant species would be reduced due to less ground disturbance associated with the Worthington Mountains Trailhead and fewer sign installations, when compared with the proposed action.

Impacts of Alternative C

No difference from the proposed action.

Impacts of No Action

Weed introduction from individuals hiking and from vehicles along cherry-stemmed routes and wilderness boundary roads may occur. Weed monitoring would occur on a regular basis along roads, cherrystem routes and around springs reasonably accessible from roads. Compared to the proposed action, weed treatment would be sporadic and would not occur in a timely manner. Additionally, when weeds are found, site-specific NEPA analysis would not be guided by the treatment options and priorities outlined in the proposed action, further slowing down the ability to treat weeds in a timely manner.

Recreation Uses

Affected Environment

The wilderness areas are generally within a two hour drive from Caliente, Nevada. Year round visitation to the wilderness areas is possible, although visitation may be limited during winter when snow is common and summer when temperatures surpass 90°F. While the amount of annual visitation is unknown, it is presumed to be low.

Recreational activities include hiking, camping, climbing, caving (spelunking), enjoying scenery, nature study and hunting. Horseback riding and backpacking may be limited due to the scarcity of water. The wilderness areas range in elevation from 4,600 feet to the 8,968 foot summit of Worthington Peak, within the Worthington Mountains Wilderness. The rugged peaks, cliffs, and remote canyons offer destinations for hikers and climbers.

Less difficult hiking opportunities can be had on the lower slopes of the wilderness area's outer edges. An unknown number of trails exist which were created by wild horses and livestock. Hunting occurs for desert bighorn sheep, mule deer, pronghorn antelope, and upland game birds including Gambel's quail, greater-sage grouse, and chukar partridge. Firewood availability is very good throughout most of the areas, due to the prevalence of pinyon, juniper, and other evergreen trees, with the exception of the lower bajadas on the west side of the Worthington Mountains Wilderness.

Leviathan Cave within Worthington Mountains is a well-known caving (spelunking) destination. The cave is listed on numerous websites and outdoors publications. Leviathan Cave is commonly accessed via an undesignated and unmaintained trail from the east, thru a steep, narrow

canyon. A second, less common route, accesses the cave from the west via a gentle ascent of the mountain slope, followed by a steep climb through a canyon to the cave entrance above. Visitation to Leviathan Cave is low – approximately 40 visitors per year – due to its remote location and difficult access. Entering the cave requires a 20 foot rappel with rock climbing equipment, or down-climb without the use of aid or protection.

The visitor self-registration box, located in the cave entrance, shows that over the period from 2000 – 2010 there were an average of 9 groups per year; 34 visitors per year; and 4 visitors per group. Of the parties that claimed association with a group (61% of total visitation): 49% were with a grotto, 21% were with Boy Scouts, and 26% were with another group. Percentage of visitors signing the register is unknown, but expected to be high. The shoulder seasons receive the most use: fall (September - November) 44% and spring (March – May) 36%; whereas summer and winter receive far less visitation: 18% and 2%, respectively.

The majority of the two wilderness areas provide the opportunity to experience a sense of remoteness and isolation. There are numerous draws, ravines, rocky outcrops, ridges, and canyons that create secluded locales. These locales, the wilderness area's large size, and low visitation combine to provide outstanding opportunities for solitude. However, flat topography, sparse vegetation, and periodic sights and sounds of vehicles on adjacent lands and aircraft flying overhead, may decrease experiences of solitude. Opportunities for solitude are present but not outstanding on the southeastern portion of Weepah Spring due to the sights and sounds of State Route 318.

No permits are required to visit, and there are no group size limits or camping restrictions. No permits have been issued for commercial services. There are no known geocaches or letterboxes. Any summit registers would remain.

Environmental Consequences

Impacts of Proposed Action

Some recreational uses may be temporarily impacted with activities related to weeds management, fire management or emergency stabilization and rehabilitation. Grazing uses may create temporary localized impacts to recreationists seeking a wilderness experience. The designation of the staging area and trailhead may reduce instances of vehicle incursions into wilderness. The BLM would establish a monitoring system to prevent or respond to degradation of trails, campsites, solitude, additional foot-worn hiking paths and recreational impacts to other resources. Placement of signs and kiosks would facilitate recreation on both wilderness areas.

Impacts of Alternative B

No kiosk would be installed at the Worthington Mountains Trailhead, nor would the directional signs on the Worthington Mountains Wilderness. This would make locating the trailhead more challenging, but would reduce incidents of casual use. The key entrance signs on both areas would be installed, and the kiosk on Weepah Spring Wilderness would be installed.

Establishing the three campsites at the Worthington Mountains Trailhead would also allow for additional recreational opportunity near the Worthington Mountains Wilderness. Establishment campfire rings at the campsites would limit the disturbance and uncontrolled proliferation of fire rings over the Proposed Action and No Action alternatives.

Impacts of Alternative C

Since the kiosk would be installed at the cave entrance, rather than at the trailhead, visitors would not receive cave information or etiquette until they reach the cave. Any visitors to the wilderness not visiting the cave would not gain the information regarding wilderness rules and regulations, nor the natural history information of the Worthington Mountains.

Impacts of No Action

No directional signs or kiosks would be installed increasing the difficulty of finding the Worthington Mountains Trailhead. Temporary disturbances to recreation could occur as military ordnance is removed from the wilderness.

Entrance to Leviathan Cave in Worthington Mountains

Special Designations other than Designated Wilderness

Affected Environment

Special designation areas on BLM-administered lands are managed for unique or significant cultural, physical, or biological features or values and are mandated by a number of laws, regulations, and policies. An archaeological district is an area that contains a number of archaeological resources that are related and are considered as a whole rather than as a number of individual sites. The White River Narrows Archaeological District was placed on the National Register of Historic Places in 1976. The archeological district overlaps the southern portion of Weepah Spring Wilderness by 878 acres (see Map 2, Page 17). The archeological district encompasses one of the largest and most well-known concentrations of petroglyphs in Nevada, and prehistoric sites, shelter caves, hunting blinds and campsites.

Environmental Consequences

Impacts of Proposed Action

Regular monitoring of the wilderness and the overlapping archeological district would aid in preventing or quickly responding to degradation of sites (e.g. vandalism).

Impacts of Alternative B / Alternative C

There would be no difference to special designations when compared with the proposed action.

Impacts of No Action

Routine monitoring would occur without the guidance of this plan.

Special Status Animal Species

Affected Environment – Federally Listed Species

There are no known federally listed species in the project area. The Yellow-billed Cuckoo (*Coccyzus americanus*) is a federal candidate species, and may occur in the area.

Affected Environment – State Protected and BLM Sensitive Species

In addition to species federally protected under the Endangered Species Act, Nevada BLM Special Status Species include wildlife that is classified as protected under Nevada Revised Statute (N.R.S.) 501.110. Nevada BLM includes Sensitive Species which are defined as taxa that are not federally or State protected. It is BLM policy to provide the same level of protection for sensitive species as a federal candidate species, proposed species, and delisted species in the five years following their delisting (BLM Manual 6840). The manual states, *BLM shall... implement measures to conserve these species and their habitats, including [Endangered Species*

Act] proposed critical habitat, to promote their conservation and reduce the likelihood and need for such species to be listed pursuant to the [Endangered Species Act].

Information on the occurrence and abundance of Nevada BLM special status species within the management area is currently lacking because no extensive surveys within wilderness have been conducted, however, populations may be discovered in the future.

Table 5 lists the Nevada BLM special status and sensitive wildlife species that may occur in the project area, along with its key habitat, habitat components, and whether the species is State protected. The BLM seeks to be consistent with officially approved plans of other federal, state, local, and tribal governments to the extent those plans are consistent with federal laws and regulations applicable to public lands.

Environmental Consequences

Impacts of Proposed Action

Impacts would be the same for Federally Listed Species, Nevada State protected and BLM sensitive species as described for the Fish and Wildlife section on Page 80. Future wildlife activities such as restoration of existing water sources or installation of wildlife water developments would have to undergo MRDG analysis and NEPA assessment. Individual State protected or Nevada BLM listed sensitive species may be impacted by ground disturbing activities such as route rehabilitation, vegetation restoration, fire management, expansion of the Worthington Mountains Trailhead, or weeds treatments.

If horse gathers should be needed, short-term localized impacts may occur. However, in the long term some Nevada BLM special status and sensitive wildlife species may benefit from fewer impacts to springs and less competition for forage from wild horses.

Following Best Management Practices in accordance with the Ely District Resource Management Plan (2008) would minimize impacts to special status migratory or resident birds stemming from ground disturbing activities such as route decommissioning, vegetation restoration, fire management, or weeds treatments.

Minimization measures have been incorporated into the Wilderness Management Plan to address migratory birds. While there may be localized effects to individuals, this action is not expected to adversely affect populations of migratory birds.

Impacts of Alternative B

The impacts under Alternative B would generally be the same as for the proposed action, except there would be additional ground disturbance at the Worthington Mountains Trailhead with the addition of three campsites and a post and rail fence. The remaining actions under alternative B (e.g. fewer signs) should not be different than the proposed action on these wildlife species.

Impacts of Alternative C

The impacts of Alternative C would be the same as the Proposed Action.

Impacts of No Action

In general, the impacts would be the same as the proposed action because fire management, emergency stabilization and rehabilitation and wild horse management are guided by their own resource programs and may still occur in wilderness.

Table 5. Nevada BLM Special Status Wildlife Species That Do or May Occur in the Project Area.

Special Status Animal Species	Scientific Name	State of Nevada Protected Species	Key Habitat	Key Habitat Element
Birds				
Greater Sage Grouse	*Centrocercus urophasianus*	No	Sagebrush; Grasslands and Meadows	Mature Shrub and Grasses/Forbs; Forbs
Western Yellow-billed cuckoo	*Coccyzus americanus*	Yes	Intermountain Rivers and Streams	Complex Riparian Habitat
Loggerhead Shrike	*Lanius ludovicianus*	No	Intermountain Cold Desert Scrub; Mojave Mid-Elevation Mixed Desert Scrub; Sagebrush; Grasslands and Meadows; Mojave/Sonoran Warm Desert Scrub	Shrubs; Yucca spp.; Mature Shrub; Forbs; Saltbush
Golden Eagle	*Aquila chrysaetos*	No	Sagebrush, Lower Montane Woodlands, Salt Desert Scrub	Lower Montane Woodlands
Gray Vireo	*Vireo vicinior*	No	Lower Montane Woodlands, Lower Montane Chaparral, Mojave Mid-elevation Mixed Desert Scrub	Shrubby areas with insects
Juniper Titmouse	*Baeolophus griseus*	No	Lower Montane Woodlands	Pinyon-juniper woodland
Prairie Falcon	*Falco mexicanus*	No	Sagebrush and Salt Desert Scrub	Cliffs, canyons, and rocky ledges for nesting
Pinyon Jay	*Gymnorhinus cyanocephalus*	No	Lower Montane Woodlands	Pinyon-juniper woodland
Burrowing owl	*Athene cunicularia*	No	Intermountain Cold Desert Scrub, Sagebrush, Grasslands and Meadows, Developed Landscapes	Areas with higher grass-forb vegetation and grassland
Short-eared owl	*Asio flammeus*	No	Intermountain Cold Desert Scrub, Sagebrush, Mojave Mid-elevation Desert Scrub, Marshes, Grasslands and Meadows, Agricultural Lands	Open habitat with low vegetation for nesting and foraging
Crissal thrasher	*Toxostoma crissale*	No	Mesquite Bosques and Desert Washes, Mojave-Sonoran Warm Desert Scrub, Mojave Mid-elevation Mixed Desert Scrub, Lower Montane Chaparral	Dense cover

Special Status Animal Species	Scientific Name	State of Nevada Protected Species	Key Habitat	Key Habitat Element
Vesper sparrow	*Pooecetes gramineus*	No	Sagebrush, Lower Montane Woodlands	Grasslands and shrublands with low, patchy vegetation
Mammals				
American Pika	*Ochotona princeps*	Yes	Grasslands and Meadows; Cliffs and Canyons	Grass; Rocky Slopes
Big Free-tailed Bat	*Nyctinomops macrotis*	No	Cliffs and Canyons	Crevices
Desert Bighorn Sheep	*Ovis Canadensis nelsoni*	No	Mojave Mid-Elevation Mixed Desert Scrub; Cliffs and Canyons; Mojave/Sonoran Warm Desert Scrub	Rock Outcrops; Rocky Slopes; Rocks/Canyons
Hoary Bat	*Lasiurus cinereus*	No	Intermountain Conifer Forests and Woodland	Mature Overstory and Mid-Story Structure and Shrub and Herbaceous Cover
Long-eared Myotis	*Myotis evotis*	No	Intermountain Conifer Forests and Woodland; Cliffs and Canyons	Snags/Cavities; Crevices;
Pallid Bat	*Antrozous pallidus*	No	Intermountain Cold Desert Scrub; Cliffs and Canyons	Prey Populations; Crevices and Rocky Slopes
Pygmy Rabbit	*Brachylagus idahoensis*	No	Sagebrush	Tall Big Sage/Deep Soils
Spotted Bat	*Euderma maculatum*	Yes	Cliffs and Canyons	Crevices
Townsend's Big-eared Bat	*Corynorhinus townsendii*	Yes	Cliffs and Canyons, Abandoned Mine Lands	Mines and Caves

Special Status Plant Species

Affected Environment

Nevada BLM Special Status Species include plants that are federally listed, proposed, or candidate species under the Endangered Species Act or plant species declared by the State Forester Firewarden to be threatened with extinction pursuant to Nevada Revised Statutes (N.R.S.) 527.260-.300. According to N.R.S. 527.270, *no member of its kind may be removed or destroyed at any time by any means except under special permit issued by the state forester firewarden.*

Upon review of the Nevada Natural Heritage database, no documented BLM sensitive plant species were found within these wilderness areas. However, this may not represent actual species present because extensive surveys within the wilderness have not been conducted. It is likely that various other BLM sensitive plant species may be discovered in the future within the boundaries of wilderness. Table 6 lists the Nevada BLM special status plant species that may occur in the project area, along with its key habitat, habitat components, and whether the species is State protected.

Table 6. Nevada BLM Special Status Plant Species That Do or May Occur in the Project Area.

Special Status Plant Species	Scientific Name	State of Nevada Protected Species	Key Habitat	Key Habitat Element(s)
White River catseye	*Cryptantha welshii*	No	Intermountain Basins Mixed Desert Salt Scrub	Sandy to silty or clay soils of calcareous or carbonate deposits
Rock purpusia	*Ivesia arizonica* var. *saxosa*	No	Cliffs and Canyons; Crevices	Large volcanic rock outcroppings
Tiehm Blazingstar	*Mentzelia tiehmii*	No	Cliffs and Canyons; Rock Outcrops	Mostly on hilltops of white soil, sparsely vegetated white calcareous knolls and bluffs with scattered perennials.

Environmental Consequences

Impacts of Proposed Action

Destruction of individual undiscovered plants could occur from activities relating to fire management and grazing activities. Prior to the expansion Worthington Mountains Trailhead parking area a survey would be conducted for any special status plant species.

Impacts of Alternative B

Similar effects would occur under this alternative as under the proposed action. Slightly less ground disturbance would occur without installation of three signs outside the wilderness, however a larger footprint for the Worthington Mountains Trailhead campsites.

Impacts of Alternative C

Impacts would be the similar to the proposed action, except the location of one sign would be different.

Impacts of No Action

Impacts would be the same as the proposed action, though less ground would be disturbed since three signs would not be installed and the Worthington Mountains Trailhead would not be expanded.

Vegetation/Soils/Watershed

Affected Environment

The Weepah Spring and Worthington Mountains Wilderness areas are located in the Central Great Basin and Range ecoregion (Great Basin region) (U.S. Environmental Protection Agency 2007). The Southwest Regional Gap Analysis Project (SWReGAP) was initiated in 1999 and mapped landscape features for a five-state region (AZ, CO, NV, NM, and UT), including ecological systems that are grouped into vegetation patterns (Lowry et al. 2005). Table 7 displays the ecological system and percent of each within these wilderness areas based on SWReGAP information. Descriptions of general plant species associated with the ecological systems listed in Appendix G. Throughout the management area the integrity of these natural vegetation patterns is threatened by non-native invasive species.

Table 7. The Ecological Systems Present within these Wilderness Areas by Estimated Percent Cover.

Ecological System	Weepah Spring	Worthington Mountains
Great Basin Pinyon-Juniper Woodland	55.7%	26.4%
Inter-Mountain Basins Mixed Salt Desert Scrub	2.0%	37.6%
Great Basin Xeric Mixed Sagebrush Shrubland	19.4%	12.7 %
Inter-Mountain Basins Big Sagebrush Shrubland	10.3%	13.6%
Inter-Mountain Basins Cliff and Canyon	2.3%	7.1%
Mojave Mid-Elevation Mixed Desert Scrub	6.1%	<1%
Inter-Mountain Basins Semi-Desert Shrub Steppe	3.7%	2.4%
Inter-Mountain Basins Montane Sagebrush Steppe	<1%	<1%

Ecological System	Weepah Spring	Worthington Mountains
Inter-Mountain Basins Greasewood Flat	<1%	NA
Inter-Mountain Basins Semi-Desert Grassland	<1%	NA
Sonora-Mojave Creosotebush-White Bursage Desert Scrub	<1%	NA

Environmental Consequences

Impacts of Proposed Action

There may be temporary disturbance to vegetation in the immediate vicinity of salt cedar treatment, however this infestation is in the cherrystem, not within wilderness. The eradication of noxious and invasive weeds will be beneficial to vegetation communities overall by preventing the potential of these weed sources to spread into the wilderness.

Very small amounts of vegetation may be temporarily impacted along cherry-stemmed routes from authorized motorized access that may occur through future emergency stabilization and rehabilitation, wildlife management or fire management actions.

Approximately 21.4 miles (≈ 21.4 acres) of former vehicle routes will be decommissioned. Rehabilitating decommissioned routes will reduce or eliminate further unauthorized incursions and new plant growth will enhance the vegetation communities in proximity to these former routes.

Small areas of vegetation could be disturbed or destroyed if vegetation is cut back or removed to protect sensitive archaeological and historic resources, such as prehistoric rock art, from wildland fire. Vegetation would be removed to expand the parking area at the Worthington Mountains Trailhead; this is outside of the wilderness.

Pinyon pine and juniper would be removed from the understory of ponderosa pine stands in both wilderness areas.

Approved research on native plant communities, vegetation restoration projects, and monitoring could improve vegetation communities within wilderness. The prohibition of geocaching would prevent disturbance to vegetation that could occur through object burial and the development of social trails relating to geocaching.

Impacts of Alternative B

Less vegetation and soil would be disturbed with the smaller footprint of the Worthington Mountains Trailhead and three fewer signs. All other actions and impacts would be the same as the proposed action.

Impacts of Alternative C

Impacts would be similar to the proposed action.

Impacts of No Action

Without the guidance of a management plan and subsequent monitoring, altered vegetation communities may persist or further degrade impacting wildlife habitat and increasing fire frequency and severity. Unmonitored recreational use of the wilderness areas could result in impacts to vegetation on foot-worn paths and at campsites. Not designating staging areas or installing signs and kiosks could lead to degradation of vegetative communities through an increase in motorized trespass and poor wilderness ethics from recreational users.

Wilderness

Affected Environment

A Wilderness is an area designated by Congress and defined by the Wilderness Act of 1964 as a place that "(1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

The WMP addresses management of the 36,384 acre Weepah Spring and 30,644 acre Worthington Mountains Wilderness areas. Wilderness characteristics are described under four categories: untrammeled, natural, undeveloped, and having outstanding opportunities for solitude or primitive and unconfined recreation. Table 8 (below) provides a summary of the affected environment for the wilderness areas for which data was available.

In the Nevada BLM Intensive Wilderness Inventory Wilderness Study Areas Decisions (USDOI 1980), the Worthington Mountains unit (NV-040-242) is identified as containing outstanding opportunities for spelunking in Leviathan Cave. The Leviathan Cave Geologic Area is also listed as a supplemental value within the unit.

Table 8. Summary of Affected Environment for the Wilderness Areas.

Wilderness Area	Fence lines (miles)	Pipelines (miles)	Mines	Reservoirs	Wildlife Water Developments	Former Vehicle Routes (miles)	Acres Burned (2006)	Acres Seeded
Weepah Spring	0.11	0.03	1	0	0	8.4	3,248	2,794
Worthington Mountains	2.37	4.03	0	1	0	13.0	0	0

Untrammeled

Trammels are modern human controls or manipulations which hinder and restrict components or processes of ecological systems within wilderness. The few trammeling activities that exist include various measures in the management of wildland fire, weeds, emergency stabilization and rehabilitation treatments and removal of vegetation due to livestock grazing. Additional obstructions are present in the form of authorized allotment fences, pipelines and reservoirs.

Natural

These areas appear to be substantially free from the effects of modern civilization, having been primarily affected by the forces of nature, and their primeval character is mostly preserved. In 2006 and 2007, four large wildfires burned a total of 3,671 acres within the Weepah Spring Wilderness. The wildfires were as follows: Cloudy, 768 acres; Narrows, 251 acres; Oreana, 2,447 acres (in wilderness); Timber, 205 acres. Following the wildfires, 2,794 acres were aerial seeded with a Hambly-Range Wilderness mix.

Some changes to the native vegetation composition have occurred, including the introduction of the non-native invasive annual cheatgrass in portions of the wilderness areas, and one known infestation of salt cedar in Worthington Mountains. Non-native chukar partridge are present and wild horses may occur within the wilderness areas. Tree stumps are evidence of a helispot that was created, pre-designation, on a saddle of Worthington Mountains.

Undeveloped

The two wilderness areas have few permanent improvements or other evidence of modern human presence or occupation. Structures associated with grazing activities include range developments such as fence lines, pipelines, a reservoir, and corral. A 500-lb. 1950's era military bomb is located within Worthington Mountains, and the potential exists for the discovery of additional aircraft parts and equipment. Former vehicle routes are found throughout portions of both areas. Historic mining activities in Weepah Spring are evident from the remaining mine shaft, head frame, and other human effects such as cans, glass, and an automobile. The climbing bolts (also on Weepah Spring Wilderness) are an allowable installation, but are still considered a development in wilderness. A self-register box is located on the floor of Leviathan Cave.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

The wilderness areas provide outstanding opportunities for people to experience solitude and primitive, unconfined recreation, including the values of inspiration and physical and mental challenge. Jagged peaks and ridges, rugged escarpments, and narrowly carved canyons in these areas provide excellent opportunities for solitude. The rugged terrain, steep rock faces, and caves provide for primitive recreation opportunities such as hiking, camping, climbing, caving, hunting, horseback riding, and nature study. Only the 14-day stay limit for camping in the two areas confines recreation opportunities.

Environmental Consequences

Impacts of Proposed Action

Untrammeled

Under this alternative, trammeling activities would continue in the wilderness areas to the same extent as under the no action. Potential trammeling activities include control of fire, emergency stabilization, thinning of pinyon pine and juniper in the ponderosa and bristlecone pine stands, rehabilitation after fire and control of non-native invasive plants. Although trammeling, these activities are expected to enhance the natural character of the wilderness areas. Grazing uses may create temporary localized impacts on the untrammeled character of the wilderness resource.

Natural

The natural and primeval character of the wilderness would be maintained or enhanced under the proposed action, and would be improved as compared to the no action. The proposed action would provide definite direction for the control of noxious weeds, and pinyon pine and juniper thinning in the ponderosa and bristlecone stands, and would direct fire management and ES & R actions to reduce the potential for conversion and dominance of introduced annual grasses.

Undeveloped

Portions of the social trail leading to Leviathan Cave would be maintained or hardened as necessary. This is the minimum action necessary to provide for recreational opportunities while protecting natural resources by directing the majority of visitors away from sensitive locations and preventing more widespread impacts. Decommissioning of former vehicle routes followed by vegetative restoration of those areas would improve the undeveloped qualities of the wilderness.

Outstanding Opportunities for Solitude and Primitive, Unconfined Recreation

Outstanding opportunities for solitude would be largely unaffected by the proposed action. By allowing the unmaintained Leviathan trail to remain, visitation may increase in that area, diminishing the ability to find solitude. The location currently receives low visitation. Over time, however, use would be expected to increase even without the trail. Concentrating use in the

areas of the trails allows for increased opportunities for solitude elsewhere in the wilderness. The trail may enhance the ability of some to enjoy primitive recreational opportunities.

In the event of fire suppression activities, weed treatments or the pinyon pine and juniper thinning, crews would be in the area and could reduce the opportunities for solitude for the duration of the projects.

Solitude may remain impacted by military aircraft operations in airspace. Opportunities for primitive and unconfined recreation will remain outstanding throughout the wilderness. The proposed action allows for additional restrictions on recreation if monitoring indicates new damage to natural resources is occurring.

Impacts of Alternative B

Untrammeled

This alternative would have the same impacts as the proposed action regarding the untrammeled nature of the wilderness areas.

Natural

Placement of the signs and expansion of the Worthington Mountains Trailhead would all occur outside of wilderness, therefore not affecting the natural character of wilderness.

Undeveloped

Impacts would be the same as the proposed action.

Outstanding Opportunities for Solitude and Primitive, Unconfined Recreation

Placement of the signs and expansion of the Worthington Mountains Trailhead would all occur outside of wilderness, therefore not affecting outstanding opportunities in wilderness.

Impacts of Alternative C

Untrammeled

No difference from the proposed action.

Natural

Impacts would be the same as the proposed action.

Undeveloped

Alternative C would impact the undeveloped nature of wilderness by adding a sign (a development) in the entrance of Leviathan Cave.

Outstanding Opportunities for Solitude or Primitive, Unconfined Recreation

The placement of the sign in the cave entrance would slightly reduce the opportunities for primitive and unconfined recreation at that location.

Impacts of No Action

Untrammeled

Impacts occurring to this character of wilderness would continue to the same extent as under the Proposed Action.

Natural

The naturalness and primeval character of wilderness would remain mostly the same. However, invasive non-native plants including noxious weeds would remain and may spread into portions of wilderness. Limited actions may be taken in fire management and emergency stabilization and rehabilitation to prevent further conversion of native to non-native vegetation communities compared to the Proposed Action. Lack of designated trails may cause impacts to new areas and resources such as vegetation and soils. No system or strategy for monitoring visitor use would exist to help preserve wilderness character.

Undeveloped

Former vehicle routes would be available for use by hikers and equestrians. Personal property, unauthorized structures, or installations would be removed as encountered as long as they are not culturally noteworthy. Removal of these items would maintain or improve the undeveloped character.

Outstanding Opportunities for Solitude or Primitive, Unconfined Recreation

No additional regulations or actions would be implemented to confine or restrict recreational activities.

Cumulative Impacts

The purpose of the cumulative impacts analysis for the proposed action is to evaluate the combined, incremental effects of human activity within the scope of the project. The Council on Environmental Quality (CEQ) regulations define scope and state that connected actions, cumulative actions, and similar actions should be included in the impact analysis (40 CFR

1508.25). The BLM Ely Resource Management Plan states that resource analysis will occur by watershed. The project area overlaps with four watersheds, which are within the Colorado River Basin region; therefore the scope of the cumulative analysis will be restricted to actions within these basins (See Map 9, Page 106). The Council on Environmental Quality formally defines cumulative impacts as follows:

> ...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR 1508.7)

Moreover, according to the 1997 CEQ Handbook *Guidelines for Assessing and Documenting Cumulative Impacts*, the cumulative impact analysis can be focused on those issues and resource values identified during scoping that are of major importance. Relevant issues identified during scoping for the proposed action relate to the following: the potential to spread noxious and non-native invasive weeds; recreation; cave resource protection; research opportunities and limits; and impacts to wilderness character.

Past Actions

In the past 25+ years, 13 wildlife water developments (seven big game, six small game) have been installed by the Nevada Department of Wildlife within the hydrogeographic basins that overlap the management area. These water developments have helped support mule deer and upland game bird management. These actions have also allowed small game and big game species to expand their distribution into unoccupied habitat and increase in numbers.

The cumulative effects study area also overlaps two Forest Service wilderness areas: Quinn Canyon and Grant Range. The Alamo Special Recreation Permit area and the Pahranagat Special Recreation Management Area have been designated in the cumulative effects study area.

Present Actions

The scope of analysis encompasses many land uses relating to public and private land. Recreation includes OHV and motorcycle races on public lands. Domestic livestock grazing occurs across the region.

Reasonably Foreseeable Future Actions

The reasonably foreseeable future actions (RFFAs) within the project area include the following:

- Department of Defense activities such as retrieval of downed aircraft,
- Wildland fire management activities,
- Potential installation of big and small game wildlife water developments,
- Off-Highway Vehicle races, and
- Right of ways for power line, such as the Southwest Intertie Project.

Fire Management

During the construction phase of any RFFAs, the potential for human-caused wildland fire would increase. During permitted OHV races and recreational OHV use, the potential for fire may increase. However, the BLM's objective regarding fire management is to manage wildland and prescribed fires as one of the tools in the treatment of vegetation communities and watersheds to achieve the desired range of condition for resource programs (BLM 2007). Fire management goals described in the proposed action are the same; therefore, no avoidable incremental cumulative impacts from fire management would occur as a result of implementing the WMP.

Noxious and Non-native Invasive Weeds

Weeds have the potential to increase in distribution and abundance for any RFFAs during the construction phase. Post-fire ES & R projects seek to reduce the spread of invasive grasses. The proposed action would disturb a very small area compared to these other potential projects. Weed management would decrease the potential for weed reservoirs to exist inside wilderness boundaries. Moreover, best management practices and standard operating procedures that are focused on preventing the spread of weeds by vectors such as vehicles or equipment would be followed; thereby contributing a negligible effect to the overall cumulative impact to the potential spread of noxious and non-native and invasive weeds within these watersheds.

Recreation

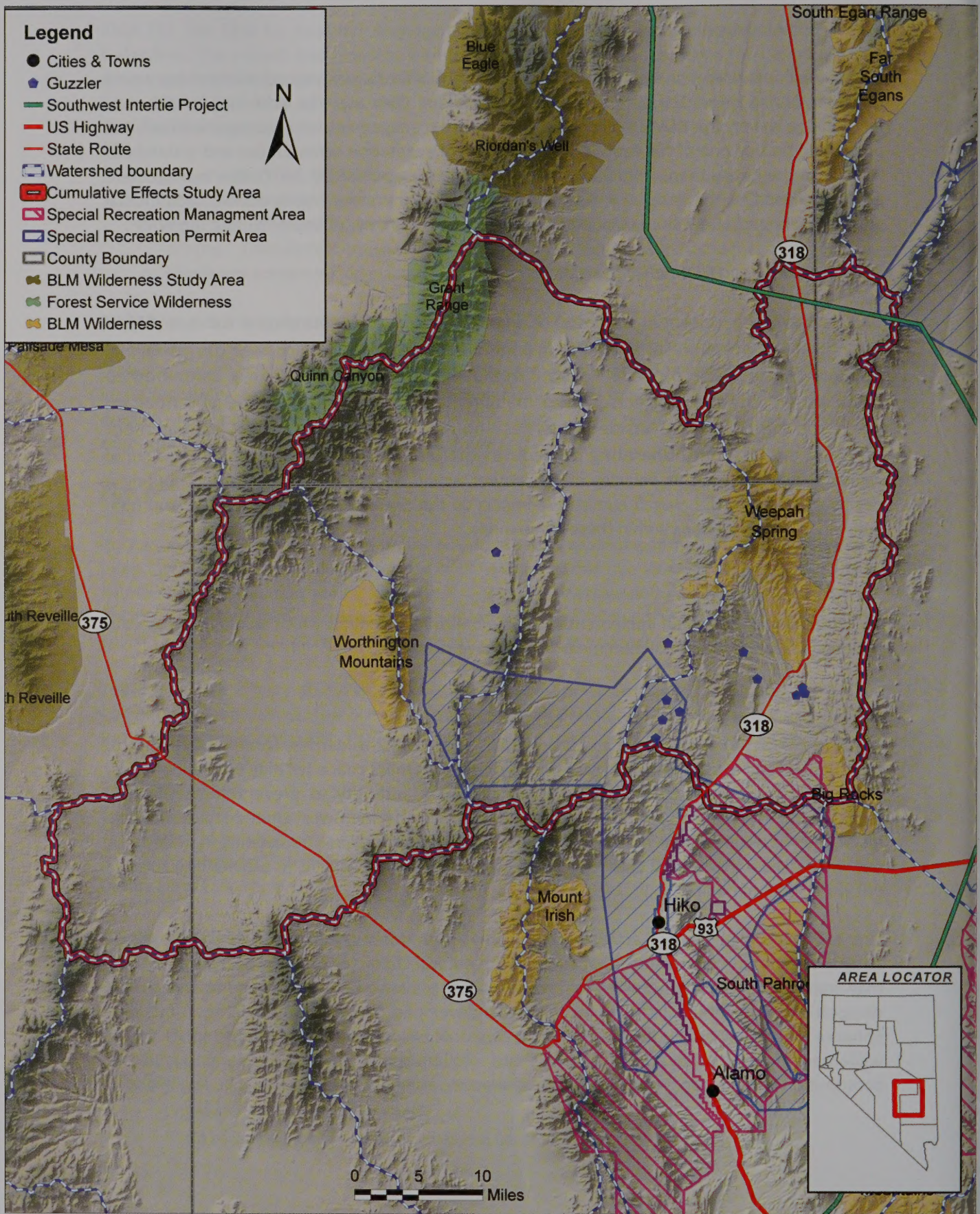
The proposed action would implement specific monitoring protocols which would help evaluate the need for additional protection measures for cave resources.

Wilderness Character

By law (LCCRDA 2004), no buffer zones are created to protect wilderness from the influence of activities on land outside of wilderness boundaries. Wilderness character may be diminished by RFFAs but the proposed action has no administrative authority to prevent these impacts. Climate forecasts predict increasing heat and drought for the southwest United States. Possible installation of wildlife water developments in the future may increase trammeling in wilderness, but will enhance the natural character by allowing some native wildlife to expand into suitable but water-limited habitat.

Fire and weed management activities may increase trammeling, but the goals are to restore natural vegetation communities that support the natural character of wilderness. Grazing uses may impact some wilderness characteristics, but are allowed by the Wilderness Act. Trail designation or maintenance may impact the undeveloped character of wilderness, but may enhance opportunities for solitude in other areas of wilderness. Management goals for all wilderness areas in the area of analysis are similar; therefore the long-term cumulative contribution of effects to overall wilderness character would not occur or would be negligible.

MAP9:CUMULATIVEEFFECTSSTUDYAREA



Petroglyphs in Weepah Spring Wilderness

Grazing Uses

The possibility of more frequent or sustained droughts in the desert southwest may increase the need for maintenance of range developments to provide water for livestock operators.

Conclusion

The overall direction of wilderness management is to preserve wilderness characteristics. In combination with past, present, and reasonably foreseeable future actions, the proposed action does not meaningfully add to the cumulative impacts from those actions.

Monitoring Program

Monitoring of wilderness is a component of the Ely District Wilderness Program. Monitoring tracks the outcome of proposed activities on all wilderness characteristics, not just the one specific character that the activity was primarily intended to address. The Wilderness Management Plan contains a detailed monitoring section on starting on Page 49.

Consultation and Coordination

A public notification will be posted on the Ely District Office website when this Environmental Assessment is completed, the Finding of No Significant Impact and Decision Record is signed and a 30-day appeal period initiated.

The Ely District Office mails a Consultation, Cooperation, and Coordination Letter to individuals and organizations that have expressed an interest in recreation/wilderness related actions. Those receiving the Consultation, Cooperation, and Coordination Letter have the opportunity to request from the Ely District Office more information regarding specific actions. Those requesting notification of recreation/wilderness actions are requested to respond if they want a copy of the final Environmental Assessment and signed Finding of No Significant Impact and Decision Record.

A Notice of Proposed Action was sent to the Wilderness mailing list in April, 2010. The first internal scoping meeting was held at the Caliente Field Office on April 20, 2010. The Proposed Wilderness Management Plan was presented at a Tribal Coordination Meeting; no comments or concerns were raised.

Public scoping workshops were held at the Southern Nevada District Office on May 24, 2010 and May 25, 2010 at the Caliente Field Office. No one attended the meeting in Caliente, though the meeting was advertised in the Lincoln County Register for two weeks prior to the meeting. Fliers announcing the meeting were posted at the post office and the market in Caliente and similar locations in Pioche, NV for two weeks before the meeting, as well.

A letter requesting public input was sent to individuals on the Ely District and Southern Nevada District Offices wilderness mailing list in November, 2010. An additional letter requesting further input on specific topics (e.g. the Worthington Mountains Trailhead, management of Leviathan Cave) was sent in January, 2011. It was during this period that it was determined to remove the Leviathan Cave management to a separate plan, due to comments received on the topic.

A final 45-day public comment period was initiated on June 28, 2011. One comment was received during this final comment period, though it was in support of the plan as written.

List of Preparers

Wilderness Management Plan and Environmental Assessment Compiled By

Sendi Kalcic, NEPA Writer, Great Basin Institute
John M Wilson, NEPA Writer, Great Basin Institute

BLM Employees Who Formed the Interdisciplinary Team Preparing and Reviewing this Plan

Andy Daniels, Wildlife Biologist
Domenic Bolognani, Rangeland Management Specialist
Sheri Wysong, Planning and Environmental Coordinator
Mark D'Aversa, Hydrologist
Dave Jacobson, Wilderness Planner
Emily Simpson, Wilderness Planner
Lisa Domina, Outdoor Recreation Planner
Ben Noyes, Wild Horse Specialist
Melanie Peterson, Hazardous Wastes Specialist
Karen Prentice, Emergency Stabilization and Rehabilitation Specialist
Kyle Teel, Fire Ecologist
Alicia Styles, Wildlife Biologist
Mindy Seal, Natural Resource Specialist, Noxious and Invasive Weeds
Elvis Wall, Civil Engineering Technician, Native American Religious Concerns
Nicky Pay, Archaeologist

BLM and Great Basin Institute Employees Who Provided Periodic Contributions or Expertise

Steve Smith, Nevada State Office Wilderness Coordinator

List of Agencies and Persons Consulted

Lincoln County Commissioners
Nevada Department of Wildlife
Nellis Air Force Base
Southern Nevada Grotto
Timpanogos Grotto

Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
AML	Appropriate Management Level (Wild Horses)
AMR	Appropriate Management Response (Fire)
ARPA	Archaeological Resources Protection Act of 1979
AUM	Animal Unit Month
BLM	Bureau of Land Management
BLM—APHIS MOU	Memorandum of Understanding between the Bureau of Land Management and the United States Department of Agriculture, Animal and Plant Health Inspection Service
BLM-NDOW MOU	Memorandum of Understanding between the Bureau of Land Management and the Nevada Department of Wildlife, Wildlife Management in Nevada BLM Wilderness Areas (BLM MOU 6300-NV930-0402)
DAT	District Archeological Technician
EA	Environmental Assessment
EPA	Environmental Protection Agency
E S & R	Emergency Stabilization and Rehabilitation
FMP	Fire Management Plan
FMU	Fire Management Unit
FRCC	Fire Regime Condition Class
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HMA	Herd Management Area (Wild Horses)
	LCCRDALincoln County Conservation, Recreation, and Development Act of 2004
	MFP Management Framework Plan
MIST	Minimum Impact Suppression Tactics (Fire)
MRDG	Minimum Requirements Decision Guide
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
RMP	Resource Management Plan
SAD	Suppression Activity Damage
SHPO	State Historic Preservation Office
SOP	Standard Operating Procedure
UPPR	Union Pacific Railroad
	USDA—APHIS United States Department of Agriculture, Animal and Plant Health Inspection Service
USFWS	United States Fish and Wildlife Service
WMP	Wilderness Management Plan

Glossary

Annual — Completing the life cycle in one growing season or single year.

Archaeological Resource — Any material remains of past human life or activities that are of archaeological interest.

Archaeological Site — The locations of past human activity, occupation or use, identifiable through inventory, historical documentation or oral history

Catastrophic Wildfire — A fire event causing notable ecosystem or societal damage as a result of heavy fuel loads and an unnatural fire regime

Cherrystem — A dead-end road or feature that forms a portion of a wilderness boundary and that remains outside the Wilderness.

Fire Regime — The characteristics of fire in a given ecosystem, such as the frequency, predictability, intensity, and seasonality of fire.

Former Vehicle Route — A road used by motorized vehicles prior to wilderness designation that was closed to motorized or mechanical use by the designation of the area as wilderness.

Invasive — Describes a species, which takes over a new habitat where it was not previously found, often to the detriment of species that were there before.

Minimum Requirements Decision Guide (MRDG) -- is the stewardship tool used to perform the Minimum Requirement Analysis.

Noxious Weed — Any plant designated by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property.

OHV— Off-highway vehicle.

Perennial — Active throughout the year, or living for many years.

Primeval — At or from the ancient original stages in the development of something.

Solitude — A quality of quiet remoteness or seclusion in places from which human activity is generally absent.

Untrammeled — Not limited or restricted, unrestrained by man.

Appendix A

HERBICIDE TREATMENTS FOR INFESTATIONS

Cut-Stump Method:

- Trees would be initially downed using either hand or cross-cut saws.
- Wood slash would be scattered.
- The stumps would be painted with an herbicide mixture of triclopyr and basal oil.
- Backpack sprayers and pack stock may be used for transportation of herbicides.
- Initial treatments would use both water and kerosene based commercial formulations of triclopyr. The water based formulation was approved in December 2002 by the Environmental Protection Agency for aquatic use. It will be mixed with water or used undiluted for infestations located within 1 meter of water. The kerosene based formulation would be mixed at 1:3 ratios with 100% vegetable oil binding agents. Both herbicides would be applied by backpack sprayers. Non-toxic marking dye will be added to the solution to insure proper coverage.
- Chemical applications will not occur within 24 hours of forecasted rain.
- To minimize triclopyr vaporization, use will occur when air temperatures are between 60-90° F.
- Resprouts and new growth would be treated with a ground foliar application of a formulation of imazapyr.
- All standard operating procedures, mitigation, and conservation measures listed in the Record of Decision for the Vegetation Treatments Using Herbicides on BLM lands in 17 Western States Programmatic Environmental Impact Statement, which was signed in September of 2007, will be followed.

Low Volume Foliar Method:

- This method is usually applied in the early fall before the salt cedar loses its foliage.
- Foliage would be sprayed with a herbicide mixture of imazapyr and water.
- Backpack sprayers and pack stock may be used for transportation of herbicides.

Appendix B

PROPERLY FUNCTIONING CONDITION

Stream or Spring Name	*Wilderness*	*Location*	*Date of Evaluation*	*Condition**	*Action(s) Needed*
Wild Horse Spring	Worthington Mountains (cherrystem)	T 01 S R 57 E Section 07		no riparian area associated with this spring	
Rose Spring	Worthington Mountains (cherrystem)	T 01 S R 56 E Section 11		no riparian area associated with this spring	
Unnamed Spring	Weepah Spring	T 02 N R 61 E Section 36	Dry source and largely inaccessible.		
Weepah Spring	Weepah Spring (cherrystem)	T 01 N R 62 E Section 18	Fully developed with all the water going into a pipeline to a stock tank. These have no associated riparian areas.		
Oreana Spring	Outside Weepah Spring	T 01 N R 61 E Section 29			
White Rock Springs	Weepah Spring (cherrystem)	T 01 N R 62 E Section 3	No PFC data		
White Rock Springs	Weepah Spring	T 01 N R 62 E Section 3	No PFC data		
Unnamed Spring	Outside Weepah Spring		Fully developed with all the water going into a pipeline to a stock tank. These have no associated riparian areas.		
Unnamed Spring	Outside Weepah Spring		Historically developed, however the development is no longer functioning. The water at this spring does not support a riparian area, however is important for livestock, wildlife, and wild horses.		
Unnamed Spring	Outside Weepah Spring		Developed with a portion of the water going into a pipeline to a stock tank. The remaining water does not support a riparian area.		

*Properly Functioning Condition/ Functioning At-Risk/ Nonfunctional
Refer to Maps 2-3 on Pages 17-18 for spring locations.

Appendix C

THE USE AND CALCULATION OF STAND DENSITY INDEX (SDI)

Foresters and land managers use many metrics to put a numerical value on the density of a forest or woodland stand. The most intuitive perhaps of these is the number of trees per acre. But two stands with the same number of trees per acre can look very different from one another and this would not be known without more information being given. Thus foresters often move away from using trees per acre in favor of using metrics that provide more information based on a single number. In 1933 Reineke developed the Stand Density Index (SDI) and correlating Relative Density Index (RDI). SDI gives a way to compare stands of different structure with one number. In short, SDI is the number of equivalent ten-inch diameter trees per acre (Tappeiner 2007). Thus a stand with 100-fifty inch diameter trees would have a much higher SDI that a stand with 100-five inch diameter trees as both stands are normalized to a stand comprised of ten inch trees. The original formula for SDI is shown below (1).

$$SDI=N*(QMD/10)^{1.605} \quad (1)$$

where N =number of trees;
QMD = the quadratic mean diameter (the diameter of the tree in the stand of the average volume)

Because we often deal with pinyon and juniper woodlands, where measuring a diameter at breast height (DBH) is often impractical, the equation has been rewritten to incorporate the tree's diameter at root collar (DRC) which is often used in measuring pinyon and juniper species (Page 2008) (2).

$$SDI=N*(DRC/10)^{1.605} \quad (2)$$

While SDI is often thought of as a total for the entire stand, it can just as easily be calculated for a single species (i.e. pinyon) or group of species (i.e. pinyon and juniper) by using only the data from those species in the equation.

Another useful metric is the Relative Density Index (RDI) that is calculated from a theoretical maximum SDI for the given species (or group of species). Maximum SDI's are generally constant across a region. The maximum SDI of pinyon and juniper has not been scientifically calculated in the Great Basin, but a maximum SDI of 415 is used for most other regions where pinyon and juniper occur. 415 is also the maximum SDI used in the modeling program Forest Vegetation Simulator or FVS, used widely by federal land management agencies. Ponderosa pine has a maximum SDI of 400 in the region. RDI is simply the calculated SDI divided by the theoretical maximum SDI for the stand (3).

$$RDI=SDI/SDI_{max} \quad (3)$$

Because the stands in question in this activity are ponderosa or bristlecone pine sites, a maximum SDI of 400 will be used for calculating management thresholds. It has also been suggested that if a question is raised concerning the actual maximum SDI of a stand, using the lower maximum SDI will provide a more conservative approach and a generally healthier stand.

RDI is particularly useful due to some hard rules concerning ecological conditions within the stands at given RDI values (Long 1985). For instance, at an RDI of .35 a site is fully occupied and competition for resources between individuals begins. At an RDI of .55 competition increases and mortality of suppressed individuals is imminent. At .25 canopy closure is reached. These RDI values are constant independent of species or site. In stands of multiple species or age classes, each species (or age class) can be calculated individually and summed to equal the total SDI of the stand. In ponderosa pine stands, when the RDI of the pinyon juniper component of the stand reaches .1 (a SDI of 40) the pinyon and juniper component of the stand begins to limit regeneration of ponderosa pine due to increased competition for light, water and nutrients. Also at a SDI of 40, the pinyon and juniper component of the stand has sufficient ladder fuels to transport a surface fire into the crowns of ponderosa or bristlecone pine, an uncharacteristic event in either ecosystem. Because of these ecological ramifications of a pinyon and juniper SDI above 40, this level was set as the threshold for initiating restoration activities within the Worthington and Weepah wildernesses.

References:

Long, J.N. 1985. A practical approach to density management. Forestry Chronicle 61:23-27.

Page, D.H. 2008. Preliminary Thinning Guidelines Using Stand Density Index for the Maintenance of Uneven-aged Pinyon-Juniper Ecosystems. RMRS-P51: 104-112.

Reineke, L.H. 1933. Perfecting a stand-density index for even-aged forests. Journal of Agricultural Research 46:627-638.

Tappeiner, J.C. et al. 2007. *Silviculture and Ecology of Western U.S. Forests*. Oregon State University Press, Corvallis, OR. pp 440.

Appendix D

WILDLIFE WATER DEVELOPMENTS

- **Inspections**

All wildlife water developments encompassed by these wilderness areas require routine inspection. Inspections will be conducted annually by BLM wilderness staff with assistance from volunteers using non-motorized and non-mechanized means. During inspection, water storage levels, wildlife use, and major repair needs will be noted. Minor repairs may be made during these inspections and a report will be given to NDOW regarding the condition of each wildlife water facility.

- **Emergency Maintenance and Minor Repair**

From time to time, it may be necessary for NDOW to conduct over-flights and visual surveillance of water developments within the wilderness areas in order to determine if emergency maintenance and/or minor repair of plumbing components such as tanks, drinkers, and pipes is required. If maintenance and/or repairs are needed, are judged to be critical for the survival of animals, and/or are needed to negate more costly repairs at a later date, a helicopter may land to conduct the needed maintenance or repair. Immediately after emergency maintenance and/or minor repairs are completed, NDOW will notify the BLM Ely District Manager with regard to: 1) the wilderness area visited, 2) the name of the water development and the location, and 3) the nature of the emergency maintenance or repair completed.

- **Complex Maintenance and Repair**

If a problem cannot be fixed during the over-flight of water developments and more complex or complicated maintenance and/or repairs are needed that require a subsequent visit to the site, NDOW may submit a written request to the Ely District Manager for permission to land a helicopter at the site for further maintenance and/or repairs. The following information must be provided in writing by NDOW to the Ely District Manager:

  - Name of the wilderness area
  - Name and location of the water development
  - Identification of the problem and the maintenance and/or repairs needed
  - Type of motorized and mechanized equipment desired
  - Proposed dates of the maintenance/repair
  - An estimate of the number of persons to be involved
  - The estimated number of landings to be made

The Ely District Manager will respond to NDOW's written request within two weeks of receipt of the request. The District Manager will issue a public notification as a courtesy to the public, merely to provide the information contained in NDOW's request, not to

solicit public review or comment. A MRDG will be completed by the Ely District as a means of documenting the analysis and evaluation of NDOW's request. It will not be necessary for the Ely District to complete a NEPA analysis or any decision documents, other than a letter of written authorization to NDOW with appropriate terms, conditions, and stipulations attached.

The effects of helicopter landings in the wilderness areas are analyzed in the accompanying environmental analysis for this wilderness management plan. A report will be completed annually by the BLM Wilderness Planner to document all landings and motorized and mechanized equipment used to conduct complex maintenance and repairs.

- **Removal, Replacement, Modification and New Water Developments**

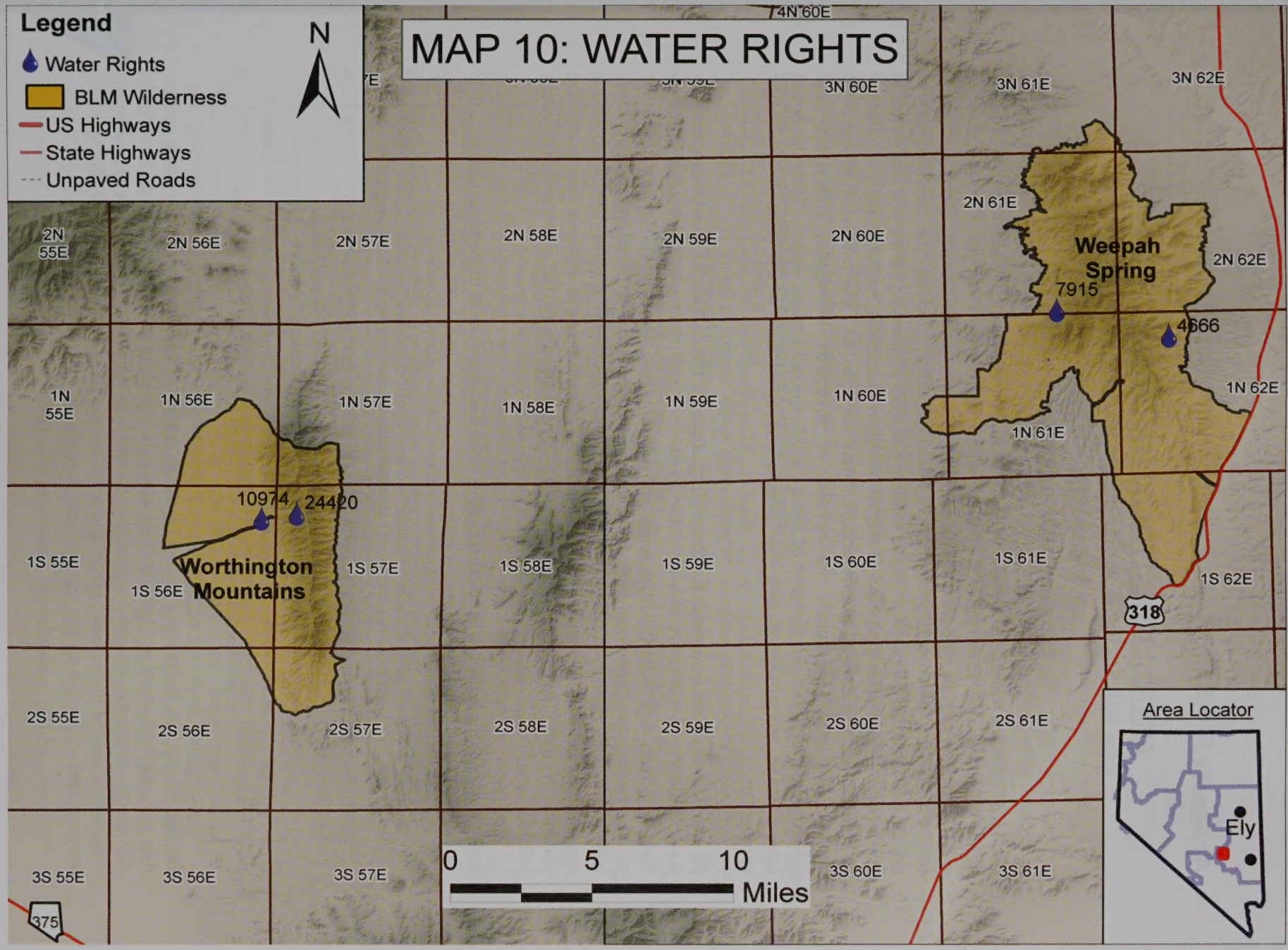
Should removal, replacement, or modification be required for existing wildlife water developments, or if new water developments are proposed, the Ely District Manager will follow the requirements for processing, analyzing and evaluating such proposals in the MOU with NDOW. The Ely District Manager will issue a public notification, prepare a MRDG, NEPA analysis, and appropriate decision documents as prescribed by BLM policy and procedure. Modifications to existing water developments may be made as long as the designed capacity and/or dimensions of the existing development are not exceeded.

Appendix E

SUMMARY OF EXISTING WATER RIGHTS WITHIN WILDERNESS.

Water Right Status and Permit Number	*Use*	*Source*	*Township and Range**
Certificate Application Number-10974 Certificate Number-2877	Stock Watering	Wild Horse Spring in Worthington Mountains Wilderness	NE 1/4 NW 1/4 Sec. 12 T01S R56E
Certificate Application Number-24420 Certificate Number-8037	Stock Watering	Wild Horse Spring in Worthington Mountains Wilderness	SW 1/4 SE 1/4 Sec. 6 T01S R57E
Certificate Application Number-7915 Certificate Number-2438	Stock Watering	Keno Spring in Weepah Spring Wilderness	NE 1/4 NE 1/4 Sec. 3 T01S R61E
Certificate Application Number-4666 Certificate Number-1575	Stock Watering	Weepah Spring in Weepah Spring Wilderness	NE 1/4 SE 1/4 Sec. 5 T01N R62E

*Some points on the map are showing in the wrong section or quarter section.


MAP 10: WATER RIGHTS
Legend
Water Rights
BLM Wilderness
US Highways
State Highways
Unpaved Roads
N
4N 60E
3N 60E
3N 61E
3N 62E
2N 61E
2N 55E
2N 56E
2N 57E
2N 58E
2N 59E
2N 60E
2N 62E
Weepah Spring
7915
4666
1N 55E
1N 56E
1N 57E
1N 58E
1N 59E
1N 60E
1N 61E
1N 62E
10974
24420
Worthington Mountains
1S 55E
1S 56E
1S 57E
1S 58E
1S 59E
1S 60E
1S 61E
1S 62E
318
2S 55E
2S 56E
2S 57E
2S 58E
2S 59E
2S 60E
2S 61E
3S 55E
3S 56E
3S 57E
3S 60E
3S 61E
375
0
5
10
Miles
Area Locator
Ely

Appendix F

RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS
Weepah Spring & Worthington Mountains Wildernesses Management Plan
Lincoln and Nye Counties, Nevada

On April 7, 2011 a Noxious & Invasive Weed Risk Assessment was completed for the Weepah Spring Wilderness and Worthington Mountains Wilderness Management Plan in Lincoln County, NV. This project provides the primary management guidance for the Weepah Spring Wilderness and Worthington Mountains Wilderness. Proposed actions include the rehabilitation of unauthorized and former vehicle routes totaling 8.4 miles in Weepah Spring and 13.0 miles in Worthington Mountains, expansion of the Worthington Mountains Trailhead and the potential to construct vehicle staging areas to accommodate visitation, and the installation of signs and kiosks. The plan also guides the removal of structures, emergency stabilization and rehabilitation, and the management of weeds within the wilderness areas. Some proposed actions could temporarily disturb the ground but all actions would have a restoration component.

No field surveys were completed for this project. Instead, the Ely District weed inventory data was consulted. Of non-native invasive plant species, only the noxious weed saltcedar (*Tamarix* spp.) has been documented within wilderness (Worthington Mountains). Although no other noxious weeds have been documented, cheatgrass (*Bromus tectorum* L.), whitetop/hoary cress (*Lepidium draba*), dalmation toadflax (*Linaria dalmatica*), spotted knapweed (*Centaurea stoebe* spp. *micranthos*) and Russian knapweed (*Acroptilon repens*) occur in adjacent non-wilderness and have the potential to occur within wilderness. These areas were last inventoried for weeds in 2007.

Factor 1 assesses the likelihood of noxious/invasive weed species spreading to the project area.

None (0)	Noxious weed species are not located within or adjacent to the project area. Project activity is not likely to result in the establishment of noxious weed species in the project area.
Low (1-3)	Noxious weed species are present in the areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious weeds into the project area.
Moderate (4-7)	Noxious weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious weeds within the project area.
High (7-10)	Heavy infestations of noxious weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious weeds on disturbed sites throughout much of the project area.

For this project, the factor rates as Low (3) at the present time. The ground-disturbing actions that are proposed cover a relatively small area and would be implemented using hand tools. Site-specific treatment actions are proposed to control the infestations of salt cedar. If weed populations expand to any new parts of the project area, the proposed Wilderness Management Plan provides active control and management procedures.

Factor 2 assesses the consequences of noxious weed establishment in the project area.

Low to Nonexistent (1-3)	None. No cumulative effects expected.
Moderate (4-7)	Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely but limited.
High (8-10)	Obvious adverse effects within the project area and probable expansion of noxious weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

For this project, the factor rates as Moderate (4) at the present time. The consequences of noxious and invasive weed establishment in these wilderness areas can be evaluated by their effect on Wilderness character and the project's vegetation communities. Currently, these Wilderness areas have few, small, and isolated weed infestations that generally do not deduct from the "natural condition" of these areas. Because the Wilderness Act requires Wilderness areas, "To be managed so as to preserve [their] natural conditions," the consequences of the establishment and spread of noxious and invasive weeds to Wilderness character would be high. Several areas in the Wilderness areas may be prone to unnatural fire regimes and the subsequent, extensive spread of cheatgrass or red brome.

The Risk Rating is obtained by multiplying Factor 1 by Factor 2.

None (0)	Proceed as planned.
Low (1-10)	Proceed as planned. Initiate control treatment on noxious weed populations that get established in the area.
Moderate (11-49)	Develop preventative management measures for the proposed project to reduce the risk of introduction of spread of noxious weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.
High (50-100)	Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed site and controlling existing infestations of noxious weeds prior to project activity. Project must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.

For this project, the Risk Rating is Moderate (12). This indicates that the project can proceed as planned as long as the following measures are followed:

- During routine Wilderness monitoring, the presence of noxious and invasive species will be recorded, and followed with treatment as guided by the Management Plan. Clear standards for managing and treating noxious and invasive weeds are stated in the proposed Management Plan.
- Where appropriate, vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. Vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Vehicles used for emergency fire suppression will be cleaned as a part of check-in and demobilization procedures. Cleaning efforts will concentrate on tracks, feet and tires, and on the undercarriage. Special emphasis will be applied to axels, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out

and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the Ely District Office Weed Coordinator or designated contact person.

- All straw, hay, straw/hay, seed, or other organic products used for reclamation or stabilization activities must be certified that all materials are free of plant species listed on the Nevada noxious weed list or specifically identified by the Ely District Office.
- Keep removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)

Reviewed by: _____ 4/7/2011

Mindy Seal
Natural Resource Specialist

Date

Map 2 and Map 3 in the Wilderness Management Plan demonstrate current conditions of each wilderness including noxious weeds documented within the wildernesses.

Appendix G

DESCRIPTIONS OF PRIMARY ECOLOGICAL SYSTEMS PRESENT WITHIN WILDERNESS AREAS

Great Basin Pinyon-Juniper Woodland

This pattern typically occurs on the dry mountain ranges of the Central Basin and Range ecoregion and the eastern foothills of the Sierra Nevada, typically at lower elevations ranging from 5200—8500 feet. These woodlands tend to be dominated by a mix of singleleaf pinyon (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*). Shrubs include multiple species of sagebrush (*Artemesia spp.*), mountain mahogany (*Cercocarpus spp.*), and grasses such as bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), and needle-and-thread grass (*Hesperostipa comata*).

Inter-Mountain Basins Mixed Salt Desert Scrub

Open-canopied shrublands of typically saline basins, alluvial slopes and plains characterizes this extensive ecological system. Vegetation is typically open to moderately dense shrubland composed of one or more saltbush (*Atriplex spp.*) species such as shadscale saltbush (*Atriplex confertifolia*), fourwing saltbush (*Atriplex canescens*), or cattle saltbush (*Atriplex polycarpa*). Other shrubs may include Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush (*Ericameria nauseos*), Nevada jointfir (*Ephedra nevadensis*), spiny hopsage (*Grayia spinosa*), winterfat (***Krascheninnikovia lanata***), desert-thorn (*Lycium spp.*), bud sagebrush (*Picrothamnus desertorum*), or horsebrush (*Tetradymia spp.*). The herbaceous layer is dominated by grasses such as Indian ricegrass (*Achnatherum hymenoides*), blue grama (*Bouteloua gracilis*), thickspike wheatgrass (*Elymus lanceolatus ssp. lanceolatus*), western wheatgrass (*Pascopyrum smithii*), James' galleta (*Pleuraphis jamesii*), big galleta (*Pleuraphis rigida*), Sandberg bluegrass (*Poa secunda*), or alkali sacaton (*Sporobolus airoides*). Various forbs are present.

Great Basin Xeric Mixed Sagebrush Shrubland

This system is found on flats and plains, alluvial fans, rolling hills, rocky hillslopes, saddles, and ridges in the Great Basin from 3280—8530 feet elevation. Shrublands are dominated by black sagebrush (*Artemisia nova*), little sagebrush (*Artemisia arbuscula ssp.*). Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*) or yellow rabbitbrush (*Chrysothamnus viscidiflorus*) may be codominants. Other shrubs that may be present include shadscale saltbush (*Atriplex confertifolia*), jointfir (*Ephedra spp.*), goldenbush (*Ericameria spp.*), spiny hopsage (*Grayia spinosa*), bud sagebrush (*Picrothamnus desertorum*), greasewood (*Sarcobatus vermiculatus*), and horsebrush (*Tetradymia spp.*). Grasses composing the herbaceous layer may include Indian ricegrass (*Achnatherum hymenoides*), desert needlegrass (*Achnatherum speciosum*), Thurber's needlegrass (*Achnatherum thurberianum*), squirreltail (*Elymus elymoides*), or Sandberg bluegrass (*Poa secunda*).

Inter-Mountain Basins Big Sagebrush Shrubland

This vegetation type typically occurs in broad basins between mountain ranges, plains, and foothills in soils which are typically deep, well-drained, and non-saline. These shrublands are dominated by big sagebrush (*Artemisia tridentata spp.*), however scattered Utah juniper (*Juniperus osteosperma*), greasewood (*Sarcobatus vermiculatus*), and saltbush (*Atriplex ssp.*) may be present in some stands. Yellow rabbitbrush (*Chrysothamnus viscidiflorus*) and mountain

mahogany (*Cercocarpus spp.*) may be codominate species in disturbed areas. Several grass species such as Indian ricegrass (*Achnatherum hymenoides*) or basin wildrye (*Leymus cinereus*) may be common.

Inter-Mountain Basins Cliff and Canyon

This ecological system is found from foothill to subalpine elevations and includes barren and sparsely covered terrain (generally <10 % plant cover) of steep cliff faces, unstable scree and talus that occur below cliff faces, narrow canyons, and smaller rock outcrops of various bedrock types. Trees and shrubs are widely scattered and may include white fir (*Abies concolor*), limber pine (*Pinus flexilis*), singleleaf pinyon (*Pinus monophylla*), juniper (*Juniperus spp.*), big sagebrush (*Artemisia tridentata spp.*), antelope bitterbrush (*Purshia tridentata*), curl-leaf mountain mahogany (*Cercocarpus ledifolius*), jointfir (*Ephedra spp.*), oceanspray (*Holodiscus discolor*), and other species often common in adjacent plant communities.

Mojave Mid-Elevation Mixed Desert Scrub

This ecological system is generally found in the eastern and central Mojave Desert and on lower piedmont slopes in the transition zone into the southern Central Basin and Range ecoregion. The vegetation in this ecological system is diverse. Characteristic species include blackbrush (*Coleogyne ramosissima*), eastern Mojave buckwheat (*Eriogonum fasciculatum*), Nevada jointfir (*Ephedra nevadensis*), Mojave yucca (*Yucca schidigera*), and Joshua tree (*Yucca brevifolia*). Grass species may include Indian ricegrass (*Achnatherum hymenoides*), Sandberg bluegrass (*Poa secunda*), or big galleta (*Pleuraphis rigida*).

Inter-Mountain Basins Semi-Desert Shrub Steppe

This ecological system occurs at lower elevations on alluvial fans and flats with moderate to deep soils. This semi-arid shrub steppe is typically dominated by grass species (>25% cover) with an open shrub layer. Characteristic grasses include Indian ricegrass (*Achnatherum hymenoides*), saltgrass (*Distichlis spicata*), and needle-and-thread grass (*Hesperostipa comata*). Woody species include fourwing saltbrush (***Atriplex canescens***), Greene's rabbitbrush (*Chrysothamnus greenei*), winterfat (***Krascheninnikovia lanata***), and broom snakeweed (*Gutierrezia sarothrae*).

Inter-Mountain Basins Montane Sagebrush Steppe

This ecological system includes sagebrush communities occurring at montane and subalpine elevations from 3280—9840 feet and is primarily composed of mountain big sagebrush (*Artemisia tridnetata ssp. vaseyana*) and related plants, as well as antelope bitterbrush (*Purshia tridentata*). Other common shrubs include snowberry (*Symphoricarpos spp.*), serviceberry (*Amelanchier spp.*), rubber rabbitbtush (*Ericameria nauseosa*), wild crab apple (*Peraphyllum ramosissimum*), wax currant (*Ribes cereum*), and yellow rabbitbrush (*Chrysothamnus viscidiflorus*). The herbaceous layer is abundant in most stands (over 25% cover), but also includes mountain big sagebrush (*Artemisia tridentata ssp. vaseyana*) shrublands. Common grasses include Idahoe fescue (Festuca idahoensis), needle-and-thread grass (*Hesperostipa comata*), muttongrass (*Poa fendleriana*), slender wheatgrass (*Elymus trachycaulus*), Sandberg bluegrass (*Poa secunda*), and spike fescue (*Leucopoa kingii*).

Inter-Mountain Greasewood Flat

This ecological system is common in intermountain basins of the western United States. It usually occurs near drainages on stream terraces and flats or may form rings around more sparsely vegetated playas. It is typically a mosaic of multiple communities, with open to moderately dense shrublands dominated or codominated by greasewood (*Sarcobatus vermiculatus*). Fourwing saltbush (*Atriplex canescens*), shadscale saltbush (*Atriplex confertifolia*), or winterfat (*Krascheninnikovia lanata*) may be present to codominant. If present, the herbaceous layer is usually dominated by grasses. Alkali sacaton (*Sporobolus airoides*) and saltgrass (*Distichlis spicata*) may be included where water remains the longest, or common spikerush (*Eleocharis palustris*) and related plant types.

Inter-Mountain Semi-Desert Grassland

This ecological system is extensive, occurring on dry plains and mesas thoughout the western United States at elevations of 4750—7610 feet. These grasslands occur in lowland and upland areas and may occupy swales, playas, mesatops, plateau parks, alluvial flats, and plains, but sites are typically xeric. These grasslands are typically dominated or codominated by Indian ricegrass (*Achnatherum hymenoides*), threeawn (*Aristida spp.*), blue grama (*Bouteloua gracilis*), needle and thread (*Hesperostipa comata*), muhly (*Muhlenbergia spp.*), or James' galleta (*Pleuraphis jamesii*) and may include scattered shrubs and dwarf-shrubs of species of sagebrush (*Artemisia spp.*), saltbush (*Atriplex spp.*), coleogyne (*Coleogyne spp.*), jointfir (*Ephedra spp.*), snakeweed (*Gutierrezia spp.*), or winterfat (*Krascheninnikovia lanata*).

Sonora-Mojave Creosotebush-White Bursage Desert Scrub

This desert scrub system is characteristic of the broad valleys, bajadas, plains, and low hills in the Mojave and lower Sonoran deserts. Creosote bush (*Larrea tridentata*) and burrobush (*Ambrosia dumosa*) are typically the dominant species, but many shrubs may co-dominate or form sparse understories in any given area. Associated species include fourwing saltbush (*Atriplex canescens*), desert holly (*Atriplex hymenelytra*), brittlebush (*Encelia farinosa*), Nevada jointfir (*Ephedra nevadensis*), water jacket (*Lycium andersonii*) and beavertail pricklypear (*Opuntia basilaris*). The understory is typically sparse but may be seasonally abundant with short-lived wildflowers. Herbaceous species such as sandmat (*Chamaesyce spp.*), low woollygrass (*Dasyochloa pulchella*), and desert trumpet (*Eriogonum inflatum*) are common.

Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland

This system is characterized by open woodlands on rocky slopes and high-elevation ridges above subalpine forests and woodlands, commonly on southwestern exposures between 8300—12,000 feet elevation. Stands are heavily dominated by limber pine (*Pinus flexilis*) and/or Great Basin bristlecone pine (*Pinus longaeva*), and singleleaf pinyon (*Pinus monophylla*) may be present in lower-elevation stands. Associated shrubs and herbaceous species may include rosy pussytoes (*Antennaria rosea*), King's sandwort (*Arenaria kingii*), big sagebrush (*Artemisia tridentata spp.*), littleleaf mountain mahogany (*Cercocarpus intricatus*), desert sweet (*Chamaebatiaria millefolium*), squirreltail (*Elymus elymoides*), cushion buckwheat (*Eriogonum ovalifolium*), alpine fescue (*Festuca brachyphylla*), prairie Junegrass (*Koeleria macrantha*), granite prickly phlox (*Leptodactylon pungens*), wax currant (*Ribes cereum*), or gooseberry currant (*Ribes montigenum*).

Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland

A considerable part of this ecological system consists of Engelmann spruce and subalpine fir forests as a matrix of forests ranging from 4,200—11,000 feet elevation. Commonly representing the highest elevation forests in an area, it includes Engelmann Spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) dominating either mixed or alone. Douglas-fir (*Pseudotsuga menziesii*) may also occur and patches of mixed conifer/quaking aspen (*Populus tremuloides*) stands are not uncommon. Common juniper (*Juniperus communis*) and creeping barberry (*Mahonia repens*) may be found in drier habitats.

Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland

This high-elevation system is found on a variety of terrain and is dominated by Engelmann Spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*). Understory shrubs include Saskatoon serviceberry (*Amelanchier alnifolia*) and willow (*Salix spp.*) Herbaceous species include red baneberry (*Actaea rubra*), starry false lily of the valley (*Maianthemum stellatum*), and bluejoint (*Calamagrostis canadensis*).

Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland

This is a highly variable ecological system composed of mixed-conifer forests occurring on all aspects from 4,000—10,800 feet elevation. Douglas-fir (*Pseudotsuga menziesii*) and white fir (*Abies concolor*) are most common, but ponderosa pine (*Pinus ponderosa*) may occur and be a codominant. Limber pine (*Pinus flexilis*) is common in Nevada. Up to seven species of conifer may occur in the same area, and there are numerous common shrub and grass species including kinnikinnick (*Acrostaphylos uva-ursi*), creeping barberry (*Mahonia repens*), mountain snowberry (*Symphoricarpos oreophilus*), and Gambel oak (*Quercus gamelii*).

Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland

This system is characterized by mixed conifer forests, mainly occurring in cool ravines and on north-facing slopes at elevations of 4,000—10,800 feet. Douglas-fir (*Pseudotsuga menziesii*) and white fir (*Abies concolor*) frequently dominate the canopy, but Engelmann spruce (*Picea engelmannii*) or ponderosa pine (*Pinus ponderosa*) may occur. This system also consists of mixed conifer/quaking aspen (*Populus tremuloides*) stands. A number of shrubs species can occur including Rocky Mountain maple (*Acer glabrum*), water birch (*Betula occidentalis*), redosier dogwood (*Cornus sericea*), and New Mexico locust (*Robinia neomexicana*). Herbaceous species include fringed brome (*Bromus ciliatus*), Ross'sedge (*Carex rossii*), bluebunch wheatgrass (Pseudoroegneria spicata), smallflowered woodrush (*Luzula parviflora*), and Fendler's meadow-rue (*Thalictrum fendleri*).

(USGS National Gap Analysis Program, 2005)

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FINDING OF NO SIGNIFICANT IMPACT
For the
Weepah Spring & Worthington Mountains
Wilderness Management Plan

Bureau of Land Management
Environmental Assessment # DOI-BLM-NV-L000-2010-0008-EA

Finding of No Significant Impact:

I have reviewed Environmental Assessment (EA), dated June 17, 2011. After consideration of the environmental impacts as described in the EA, which is incorporated herein, I have determined that the proposed action (wilderness management plan) as described in the EA will not significantly affect the quality of the human environment and that an environmental impact statement (EIS) is not required. This finding and conclusion is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 Code of Federal Regulations 1508.27), both with regard to the context and the intensity of impacts described in the EA.

Context:

The Weepah Spring and Worthington Mountains Wilderness areas are part of the National Wilderness Preservation System. These areas are of most interest to residents in Nevada, California and Utah.

Intensity:

1) Impacts that may be both beneficial and adverse.

   The environmental assessment has considered both beneficial and adverse impacts of the wilderness management plan. On the whole, the plan will result in enhancements to the wilderness characteristics of naturalness, opportunities for primitive recreation, and various special features including cultural resources. Preserving a more natural system is considered as merely improving the quality of the human environment through proactive management, and is not considered a significant effect both in the short or long term.

2) The degree to which the proposed action affects public health or safety.

   Implementation components of the proposed wilderness management plan will not result in potentially substantial or adverse impacts to public health and safety.

3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

The action areas are within and adjacent to designated wilderness. These two areas were designated for their unique characteristics including high scenic qualities, diverse cultural resources, important wildlife habitat, and opportunities for solitude and primitive recreational pursuits.

4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The effects of implementing decisions of the wilderness management plan are well known and documented and not highly controversial in that wilderness management plans are essential to maintaining the natural condition of wilderness as required by the Wilderness Act. The methods chosen to complete implementation actions are accepted methods to meet resource and management objectives and are not considered highly controversial.

5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

There are no effects of the proposed action identified in the EA which are considered uncertain or involve unknown risks. All actions proposed to be employed are accepted standard practices.

6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The proposed action does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration.

7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

No significant cumulative impacts have been identified in the EA.

8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

The proposed action will not cause the loss or destruction of significant scientific, cultural or historical resources.

9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

There are no known federally listed species in either of these two wildernesses. The EA has identified that no adverse impacts would result to these species from implementing the proposed action.

10) Whether the action threatens a violation of Federal, State, or local law or requirement imposed for the protection of the environment.

The proposed action will not violate or threaten to violate any Federal, State, or local law or requirement imposed for the protection of the environment.

Approved by: Rosemary Thomas 10/13/2011

Rosemary Thomas
District Manager
Ely District Office

Date

DECISION RECORD
For the
Weepah Spring & Worthington Mountain
Wilderness Management Plan

Bureau of Land Management
Environmental Assessment # DOI-BLM-NV-L000-2010-0008-EA

Decision:

It is my decision to approve and implement the wilderness management plan for the Weepah Spring & Worthington Mountain Wildernesses (which is the proposed action and contains all identified mitigation measures). The proposed action is in conformance with the Ely Resource Management Plan and Final Environmental Impact Statement (2008).

Legal Compliance:

- The Wilderness Act of 1964 (16 U.S.C. §§ 1131-1136, September 3, 1964, as amended 1978).
- The Federal Land Policy and Management Act of 1976 (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996).
- The Lincoln County Conservation, Recreation and Development Act of 2004 (Public Law 108-424).
- The National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994).
- The Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544, December 28, 1973, as amended 1976-1982, 1984, and 1988).
- Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d, June 8, 1940, as amended 1959, 1962, 1972, and 1978).
- Migratory Bird Treaty Act (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989).
- Executive Order 13186–Responsibilities of Federal Agencies to Protect Migratory Birds (2001).
- Management of Designated Wilderness Areas (43 CFR Part 6300).
- Recreation Management Restrictions: Occupancy Stay Limitation (43 CFR 8365.1-2(a) and Federal Register Notice NV-930-4333-02).
- Unlawful Manner of Camping Near Water Hole (Nevada Revised Statute 503.660).

Public Involvement:

A Notice of Proposed Action was mailed to known interested parties in April, 2010. Public scoping workshops were held at the Southern Nevada District Office on May 24, 2010 and May 25, 2010 at the Caliente Field Office. A meeting specifically for livestock grazing permittees was not held given that a majority of them were present at the public scoping workshops. A letter requesting public input was sent to individuals on the Ely District and Southern Nevada District Offices wilderness mailing list in November, 2010. An additional letter requesting further input on specific topics (e.g. the Worthington Mountains Trailhead, management of Leviathan Cave) was sent in January, 2011. A 45-day public comment period for the draft Plan and EA was initiated on June 28, 2011 which generated only one written comment. The comment was in support of the plan as written, therefore no appeal period was held.

Public Comment:

Provided that the only comment received during the 45-day public comment period was in support of the plan as written, no changes were made to the document.

Rationale For Decision:

The purpose of creating a wilderness management plan (WMP) is to preserve the areas' wilderness characteristics by identifying the conditions and opportunities that will be managed for within the wilderness areas over a ten-year span. Wilderness management plans must be prepared for all wilderness areas on public lands. Management direction must be based on the pertinent objectives of the BLM wilderness management policy as identified in BLM manual-8560.

The need for the plan stems from the Wilderness Act of 1964, which defines wilderness and mandates that the primary management direction is to preserve wilderness character. The plan creates specific management guidance addressing resources and activities in these wilderness areas. Wilderness character is a complex idea and is not explicitly defined in the Wilderness Act; Wilderness characteristics are commonly described as:

- **Untrammeled** – area is unhindered and free from modern human control or manipulation.
- **Natural** – area appears to have been primarily affected by the forces of nature.
- **Undeveloped** – area is essentially without permanent improvements or human occupation and retains its primeval character.
- **Outstanding opportunities for solitude or a primitive and unconfined type of recreation** – area provides outstanding opportunities for people to experience solitude or primitive and unconfined recreation, including the values associated with physical and mental inspiration and challenge.

- **Supplemental values** – complementary features of scientific, educational, scenic, or historic values.

The proposed action, the wilderness management plan, was selected over the alternative because it met the need and objectives outlined in the plan. The proposed action has been analyzed and determined that there is no significant impact as referenced in the FONSI attached to the EA. The proposed plan will guide management so that the preservation objectives of the Wilderness Act can be met. The decision is also based on the fact that there was a finding of no significant impact.

Appeal Opportunities:

All parties involved in the process will be notified by certified mail and will have 30 days after receiving notification to appeal the decision.

Approved by: Rosemary Thomas 10/13/2011

Rosemary Thomas
District Manager
Ely District Office

Date

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Back Cover: Weepah Spring Wilderness